

**DEPARTMENT OF DEFENSE APPROPRIATIONS
FOR FISCAL YEAR 2005**

WEDNESDAY, APRIL 28, 2004

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:05 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.
Present: Senators Stevens, Inouye, and Leahy.

DEPARTMENT OF DEFENSE

MEDICAL PROGRAMS

**STATEMENT OF LIEUTENANT GENERAL JAMES B. PEAKE, SURGEON
GENERAL, UNITED STATES ARMY**

OPENING STATEMENT OF SENATOR TED STEVENS

Senator STEVENS. Good morning. We are pleased to see you here this morning.

We are going to have a hearing on the medical programs. Two panels are scheduled. First, we will hear from the Surgeon Generals, followed by the Chiefs of the Nursing Corps. We have joining us today from the Army Surgeon General, Jim Peake; from the Navy, Admiral Michael Cowan; from the Air Force, General George Taylor. We welcome you all back again.

I understand this is your last appearance before the committee, General Peake.

General PEAKE. Yes, sir.

Senator STEVENS. And Admiral Cowan.

Admiral COWAN. Yes, sir.

Senator STEVENS. We do thank you for your service and assistance to this committee and value your views.

This is a very difficult period for defense health programs, as we all know. The President's fiscal year 2005 request for the defense health program is \$17.6 billion, a 15 percent increase over the fiscal year 2004 request. The request provides for the health care of 8.8 million beneficiaries and for the operation of 75 military hospitals, 461 military clinics.

Despite the increase that is requested this year, this committee remains concerned that the funding may not be sufficient to meet all our requirements. We recognize that the continuing conflict in Iraq and the global war on terrorism, along with rising costs for prescription drugs and related medical services, will continue to

strain the financial resources that are requested in this budget and place increased demands on our medical service programs and providers.

Now, Senator Inouye and I are both personally familiar with the value of military medicine and have worked with your organizations for many years. We committed to work with you and to address the many challenges that you face.

Let me take a moment to commend the Department's medical service personnel for their work in the global war on terrorism. Their performance has been nothing short of extraordinary. From the moment our soldiers, sailors, airmen, and marines go into harm's way military medics are deployed as part of the fight. We applaud their efforts and your efforts in serving jointly to meet the medical needs of our warfighters and their families, and we commend all of our witnesses here today for your leadership and compassion for those who serve.

We have taken visits, as you know, to Walter Reed and to Bethesda and have been really honored to meet some of the young men and women that are there. I have got to tell you that almost every person said, "Senator, can you help us go back to our unit." The morale of these people is just overwhelming and we are proud of them all.

I want to yield to my co-chairman for his comments.

STATEMENT OF SENATOR DANIEL K. INOUE

Senator INOUE. I thank you very much, Mr. Chairman.

I want to join you in welcoming our witnesses this morning as we review our Department of Defense (DOD) medical programs. Since this will be General Peake's and Admiral Cowan's last appearance before this committee, I would like to take this opportunity to thank them for their dedicated service to the military.

Lieutenant General James Peake assumed command of the United States (U.S.) Army Medical Command in September 2000. In the years following, he oversaw 24,000 medical personnel deployed for overseas operations and an increased demand on military treatment facilities back home. He is the son of a medical service corps officer and a nurse, and your entire life has been in service to this Nation. Your time as an infantry officer gave you a unique warrior's perspective on how our wounded should be cared for, and it has helped to shape your vision for the Army medical department.

Vice Admiral Cowan has served in the U.S. Navy for 32 years and as Surgeon General of the Navy and Chief, Bureau of Medicine and Surgery since August 2001. One could not have expected that just 1 month after taking that new responsibility, the military would be deployed at unprecedented levels and you would oversee the deployment of over 4,300 naval medical personnel. In addition to the extensive overseas operation, the Navy was also on the forefront of domestic events such as the lead laboratory for the recent ricin incident in the Senate.

Admiral Cowan and General Peake, I commend and thank you for the service you have rendered to this country, and I am certain my colleagues all join me in this.

Since the beginning of Operation Iraqi Freedom, I have heard numerous personal accounts and read dozens of articles indicating lifesaving changes made in medical deployments, technology, equipment, body armor, and unit configuration. From positioning surgeons closer to the front line than ever before and using new hemorrhage control dressings and embedding physical therapists in deployed units, decreasing the size of equipment, and aeromedical evacuation teams, they have drastically altered the fate of hundreds of lives. We will continue to support the personnel and programs that improve your capability to save lives.

We will also look forward to an open discussion today with our panels. In particular, we will want to look into the status of the next generation contracts for TRICARE, our force health protection system, deployments of medical personnel, recruiting and retention, among others.

Once again, I would like to thank the chairman for continuing to hold hearings on these issues which are so important to our military and their families.

Mr. Chairman, you should forgive me. I think I need some help here. I have got a cold. Any cold medicine here?

Senator STEVENS. Is there a doctor in the house?

Senator, do you have an opening statement?

STATEMENT OF SENATOR PATRICK J. LEAHY

Senator LEAHY. Just very briefly, Mr. Chairman. I thank you for having the hearing. I would suggest to Senator Inouye what he needs is time in the sun and maybe a few days in—oh, I do not know—Hawaii?

Senator INOUE. It is a good place.

Senator LEAHY. I wanted to come to this hearing because I am concerned about the adequate health care for our armed services, whether it is active duty or Reserves. I know everybody here is concerned.

I have gone out and visited some of our wounded soldiers out at Walter Reed. It is one of the most moving and impressive things. My wife is a registered nurse and she probably understood better than I did some of the injuries of some of the people that she has talked with at greater length.

One of the most impressive things, Senator Stevens and Senator Inouye, I remember one young man who was trying on a new prosthetic leg. He had lost his leg. He was trying on a prosthetic, high-tech leg, microchips. General, I see you shaking your head. You know exactly what I am talking about. Microchips check to see how best to design it. The two of us asked him, what are you going to do now? And he looked at us like, well, I just want to get the training with the leg done so I can go back to the service. And I thought what a wonderful, wonderful answer.

Yesterday's Washington Post had a front page article, and if you have not read it, please do. It is a heartbreaking story about the devastating wounds our soldiers are suffering, and they are devastating. The good news is we can save more lives that I guess in other past combats we might not have been able to save them. The bad news, of course, is that they are horribly wounded, maimed,

blinded, and things like this. I think what we have is a real responsibility because of that to do our best.

That is all I have to say, Mr. Chairman. I do appreciate your having this hearing. I think it is an extremely important one.

Senator STEVENS. Well, we all know General Shinseki who was entitled to a full military discharge based upon his injuries and he continued in the service to become the Chief of Staff of the Army. So they have great examples from our past and we are pleased to be part of the process to help encourage them.

Our first panel is General Peake. We call on you first.

General PEAKE. Mr. Chairman, Senator Inouye, distinguished members, it really is an honor to represent Army medicine before you.

Senator STEVENS. We will put all your statements in full in the record.

General PEAKE. Thank you, sir.

It really is a unique time in our history. I reviewed the first testimony I gave before this committee in April 2001 I think it was, and we talked then about the new set of benefits that came out of NDA01, TRICARE for life, pharmacy benefit for over 65 retirees, reduction of catastrophic caps, school-age physicals, many other things, and we spoke about the need to adequately fund that benefit.

But I also made mention then of the fundamental importance from a readiness base of medical support to soldiers that comes from our direct care system then, and I commented on the U.S.S. *Cole* response of wounded sailors passing through our joint system on their way back to Portsmouth back then. I also said that it was an exciting time to have this job. I had no idea.

That hearing seems like a long time ago. Since then, your military medical system has responded to 9/11, was a key part of the response to the anthrax letters, played a major role of the cleanup right here on Capitol Hill. Our medics supported the take-down of the Taliban in Afghanistan. Forward surgical teams, linked with the special operations forces, combat support hospitals providing the only sophisticated level of care in that war-ravaged country, medics fighting uphill on treacherous terrain to save lives. Even the march to Baghdad now seems like a long time ago, a march where medical assets leap-frogged forward with the combat troops. One of our forward surgical teams set up nine different times in that march to Baghdad, integral to the fighting formations and operating on our own soldiers and Iraqi civilians and enemy prisoner of war (EPW's) as well.

Army medical evacuation helicopter crews have sustained their legacy as heroes, serving Army and cross-attached to the marines. Our combat support hospitals operated in split-based modes, covering each sequential setup of the log bases as we moved forward. The front ends of that system linked back through Europe where our jointly staffed facility at Landstuhl in Germany has continued to be the primary hub for patients who, under our construct of essential care in theater, could find themselves there within 24 to 48 hours of wounding, linked back to centers of excellence like the amputee center that you mentioned here at Walter Reed or our burn center at Brook in San Antonio. All of these efforts supported by

a base of an integrated health care system that trains to the highest standards, that inculturates our physicians and our nurses to the men and women that they support by a base of research that focuses on things relevant to the soldier so that we could field things like new skin protectants, hemostatic dressings, one-handed tourniquets. It is a base that can provide teams of world-class experts that go into country to look at things like Leishmaniasis or investigate pneumonia deaths or to study the mental health aspects of combat in an active combat zone.

We are about to complete the largest troop movement since World War II. Across this country, each of our power projection platforms and power support platforms, our soldiers have had medical screening, have been medically protected with immunizations, received care when required as they martialled for deployment, have received post-deployment screening and reintegration training and care and counseling, a tremendous medical effort focused on our balance scorecard objective, a healthy and medically protected force.

As a health system, our business has increased during this time not only with the soldiers I have described, but with family members of the deployed reservists and with the remarkable increase in our retirees who appreciate the quality of the benefit that has been legislated. I do believe the next generation of TRICARE contracts creates the correct incentives to maximize the use of our direct care system and ensure our contract partners meet the same high standards for those not around our military treatment facilities.

But it is not a magic bullet to contain the cost growth of medicine, of which we are really a microcosm, especially with the increase in those using our system. It is a cost growth that is faster than the overall DOD budget growth, as you have recognized in the past with a history of supplementals.

All of this at the same time that General Shinseki's legacy of transformation is being carried forward aggressively to make us more modular, agile, ready, and relevant to the challenges militarily of today and tomorrow.

We are fortunate to have really great leaders in our Army from our Secretary, Mr. Brownlee, who is a soldier himself, to our Chief, General Schoomaker, whose focus on the soldier is extraordinary.

But equally extraordinary are those soldiers. They inspire me and they inspire all of us who lead them at all levels. I am going to close with a couple of quotes from this last week in Iraq. I got this e-mail.

Since Sunday evening, a little more than 72 hours ago, we have done almost 60 cases with essentially nonstop surgery. I am awed at the excellence and dedication of the soldiers in my command. They have truly done an incredible job, and I am proud to be associated with them. That is from Steve Hetz, who is the commander of the 31st Combat Support Hospital in Ballad, a soldier, a surgeon who ran our teaching program at William Beaumont Army Medical Center for many years.

From Michael Oddie, a cardiac surgeon from Akron, Ohio, a reservist, a commander of the 848 Forward Surgical Team who is commanding the medical facility at the prison near Baghdad. He

sent me a note after an attack that gave them 78 casualties, of which they air evacuated 13, admitted 26, operated on 10 that night and the next day. He says, it was awesome and inspiring to see this group of soldiers perform so well and so cohesively in a dire situation. We really do have a great group of soldiers. This hospital commander stuff is as headache, but it is rewarding to see such an effort. It would have made you proud.

PREPARED STATEMENT

Well, sir, I am proud and I am proud of them and I am proud to have been a part of this team at this table. On behalf of all of our soldiers and their families and the medics, I deeply appreciate the unwavering support that you and this committee have given us all. Thank you very much.

Senator STEVENS. Part of our group visited Ballad. It is a very interesting operation, an enormous base. Those facilities are well operated and obviously very modern.

[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL JAMES B. PEAKE

Mr. Chairman and Members of the Subcommittee, thank you for this opportunity to appear before you today. This will likely be the last time I appear before your committee as the Army Surgeon General, and I wish to express my gratitude for your unwavering support for our military and especially for our medical personnel.

CORE COMPETENCIES

Our Nation is at War, and there is nothing that brings the missions of military medicine into focus like war. Healthy and medically protected Soldiers; a trained and equipped Medical Force that deploys with the Soldiers, providing state-of-the-art medical care; and managing the health of all Soldiers and their families back home while keeping the covenant with our retirees—this is the mission of the United States Army Medical Department (AMEDD). We are keeping our promise to all of our beneficiaries by providing quality and timely healthcare.

HEALTHY AND MEDICALLY PROTECTED SOLDIERS

This is a part of ongoing health maintenance informed by research in military relevant areas and about which few outside the military have much interest. From the development of vaccines for diseases seldom seen in the United States to formulating an insect repellent that can serve as a sunscreen and camouflage paint all at the same time, to working with the Food and Drug Administration to establish workable protocols for new drugs in remote locations, we meet our obligations to medically protect soldiers. It requires an integrated approach to educate soldiers about their health and about the things they can do to protect themselves day to day and in whatever region of the world they may find themselves deployed.

CURRENT DEPLOYMENTS

There have been many improvements in military medicine since I last appeared before this committee. These improvements are making a difference in how well we are taking care of our Soldiers on the battlefield.

To spearhead the Army Medical Department Transformation initiative, we have implemented the Medical Reengineering Initiative or MRI. MRI was approved by the Vice Chief of Staff of the Army in 1996 as an Army medical force design update (FDU), which reorganizes Echelon Above Division and Echelon Above Corps deployable medical units. These are the medical units that provide levels of battlefield medical care above the Battalion Aid Station and Division level medical companies. MRI will provide the Army with the modular organizational structure that supports the Current Force and will provide a bridge to the Future Force. MRI is versatile as exemplified by unit designs that are modular, scalable and possess standardized medical capabilities that can be deployed around the globe. The Army Plan (TAP) and the Army Strategic Planning Guidance (ASPG) 2006–2023, recognizes MRI as an example of modularity. MRI promotes scalability through easily

tailored, capabilities-based packages that result in improved tactical mobility, reduced footprint, and increased modularity for flexible task organization. This design enables the Joint Forces Commander to choose among augmentation packages, thus enabling rapid synchronization of desired medical capabilities. MRI is enabling us to provide better care further forward on the battlefield and faster than ever before.

With your help we are also saving lives through the deployment of the hemostatic dressings and the chitosen bandage. These are two new lifesaving wound dressings that are being used in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF). Approximately 1,200 hemostatic dressings were deployed under an Investigational New Drug battlefield clinical protocol. A team medic successfully applied a hemostatic dressing to a left thigh wound after he was unable to completely control femoral arterial bleeding with a pressure dressing and tourniquet. Similar success was achieved in two documented reports of Special Forces Medics using these bandages to treat severe bleeding caused by gunshot wounds to the extremities. Approximately 5,800 of these bandages have been deployed to the theater of operations. Our researchers continue to look for solutions for non-compressible hemorrhage wounds to the chest or abdomen. A hemostatic foam that can be injected into the body cavity is currently under research as well as a hand held high intensity focused ultrasound (HIFU) device. Our researchers at Medical Research and Materiel Command (MRMC) are working on a number of projects which will improve health care on the battlefield and in our treatment facilities. Some examples include the Hemoglobin-Based Oxygen Carrier (HBOC) a temperature stable, oxygen carrying solution that can be readily available to treat combat casualties with life threatening hemorrhage. MRMC is working with several companies to design Phase 2 and Phase 3 clinical trials with the goal of attaining FDA approval and licensure. MRMC is also sponsoring research on developing a better insect repellent, especially to protect our Soldiers from sand flies. In OIF over 400 of our Soldiers have been diagnosed with Leishmaniasis, which is a disease caused by parasites transmitted by sand flies. Leishmaniasis includes a wide spectrum of diseases ranging from the cutaneous form to the potentially fatal visceral disease. No prophylactic drugs or vaccines exist to combat this disease, hence personal protective measures are currently being used in theater. Each infected Soldier must be evacuated to Walter Reed Army Medical Center or Brook Army Medical Center of a 10–28 day therapy. Our researchers are looking for ways to identify and treat this disease in theater to avoid evacuation and reduce long-term scarring.

We are progressing in transforming the combat medic to the new 91W Military Occupational Specialty (MOS). These medics train for 16 weeks versus the previous 10 week course and gain National Registered EMT-Basic certification. The 91W combat medic training is conducted at the Army Medical Department Center and School. Active duty medical specialists and clinical specialists who have not converted to the 91W MOS are required to complete the training in their units that include not only EMT certification, but pre-hospital trauma training and advanced airway and IV management.

Not only are we improving our training for personnel, but we are also improving our capability to transport patients on the battlefield. In order to treat Soldiers on the battlefield we have to be where they are. The 507th Medical Company (Air Ambulance) and the 126th Company (Air Ambulance) took our most advanced casualty evacuation helicopter, the HH–60L Black Hawk, to support operations in Southwest Asia and Afghanistan. These aircraft include a digital cockpit, on-board oxygen generation system, external electric hoist, advanced communications, improved litter support system, medical suction and electrical power for medical equipment. We currently have nine HH–60Ls and are working on upgrading the entire medical evacuation fleet. On the ground, we have the medical evacuation vehicle variant (MEV) of the Stryker. This vehicle is integrated into the fighting formation of the 3rd Brigade, 2nd Infantry Division that deployed to Iraq last November. The new ground ambulance can carry four litter patients or six ambulatory patients while its crew of three medics provides basic medical care. It can be delivered to the battlefield in a C–130 aircraft, has the speed and mobility to keep up with fighting forces and can communicate with the most advanced combat formations.

RESERVE COMPONENT AND NATIONAL GUARD INTEGRATION

This war has reinforced a lesson we learned long ago: the AMEDD could not do its wartime mission without the Army National Guard and Army Reserve. Guard and Reserve medical units play key roles in Iraq, Afghanistan, and also in replacing active-duty personnel deployed from our stateside and European hospitals. We rely on Reserve Medical Support Units to process deploying Soldiers. Without them, ac-

tive duty medical forces at mobilization sites would not be able to continue normal care for Soldiers and families.

Professional Filler System

The Army Medical Department has been very successful in supporting contingency operations and the Global War on Terrorism (GWOT) by using a Professional Filler System or PROFIS to man early deploying units. Our PROFIS system takes AMEDD personnel from our fixed facilities and assigns them to deploying units who do not have their full complement of medical personnel. Medical Command (MEDCOM) is currently prepared to 5,787 PROFIS personnel to deploying units. Of the 5,787: 1,177 are Active Component personnel slated against spaces in Reserve units and the remaining 4,610 personnel are PROFIS to active component units or multi-component units. We currently have 839 PROFIS deployed to support OIF and OEF and all the while, our Regional Medical Commands are still maintaining their baseline medical care workload despite personnel being deployed.

Medical Holdover

A small percentage of Reserve Component Soldiers who mobilized in support of Operation Iraqi Freedom were not medically fit to deploy. Personnel guidance prior to October 25, 2003 stated Soldiers who were not medically fit to deploy would remain on active duty until maximum therapeutic benefit had been accomplished. If the Soldier's condition was still not at the point where he or she could deploy, then a Medical Evaluation Board would ensue and the Soldier would be released from active duty. By the end of October 2003 there were 4,452 Soldiers in the Medical Holdover (MHO) population and the numbers were growing. Personnel guidance changed on October 25, 2003 and the Army now returns Soldiers to their units and their homes if they are found medically unfit during the first 25 days of mobilization. The number of Soldiers who enter MHO during mobilization is now less than 1 percent. In October 2003 the Army also instituted enhanced access standards for MHO Soldiers, realizing these Soldiers were not near their homes and family, were living in quarters that were intended for short-term housing, and that the process of providing maximum therapeutic benefit was taking too long. The enhanced standards include 72 hours for specialty referrals, one week for magnetic resonance imaging and other diagnostic studies, two weeks for surgery, 30 days for the medical portions of the medical evaluation board processing, and one case manager for every 50 MHO Soldiers. Currently the AMEDD is meeting or exceeding those standards more than 90 percent of the time. Of the Soldiers in MHO on November 1, 2003, 871 remain on active duty. The total number of MHO Soldiers is 4,393 which is what our modeling predicted given the number of Soldiers mobilizing for OIF2 and the number of Soldiers demobilizing from OIF1. It is important to note the military is in the middle of the one of the largest troop movement operations since World War II.

Soldier Readiness Processing

As indicated above, a very small percent of Reserve Component Soldiers are mobilized, but are not medically ready to deploy. Soldier Readiness Processing (SRP) evaluates Soldiers to ensure they are medically and dentally ready to deploy. This means the Soldier has the required immunizations, is medically healthy, has a dental readiness classification of 1 or 2, and has his personal medical equipment such as ear plugs, eye glasses and protective mask inserts. Active Component units participate in the SRP process on a routine basis and are constantly maintained in a deployable status. RC Soldiers have a limited amount of time to participate in SRP's hence their medical status sometimes is not up to par to deploy with the rest of their unit. An integral part to the successful mobilization of our Army Reserve (USAR) and National Guard (ARNG) troops is providing medical and dental services by using the Federal Strategic Health Alliance (FEDS-HEAL) Program. The FEDS-HEAL program brings together resources of the DOD, Department of Health and Human Services and Veterans Health Administration to create a robust provider network. FEDS-HEAL delivers readiness services to USAR, ARNG, and United States Air Force Reserve service members in all 50 states and territories. The FEDS-HEAL provider network performs medical examinations, dental examinations and treatment, immunizations, and other medical readiness services through Veterans Administration medical centers, Federal Occupational Health clinics, and a network of over 1,100 physicians and nearly 2,250 dentists. In addition to exams and treatment, FEDS-HEAL provides a data management service and inputs patient care data into the Army's Medical Protection System (MEDPROS). The FEDS-HEAL Program Office provides 100 percent Quality Assurance Reviews prior to MEDPROS reporting. In Calendar Year 2003, Reserve and Guard forces received

42,624 dental exams, 44,730 dental treatments, 29,971 physical exams, 54,108 immunizations, and 2,427 vision exams.

90 Day Rotation Policy

From late 1995 to early 1998, one-third of RC physicians who deployed to the Balkans left the USAR due to the 270 day length of rotations. Recruitment and replacement of these physicians was difficult. The loss resulted in personnel shortfalls of physicians, dentists, and nurse anesthetists. A 1996 survey of 835 RC physicians found that 81 percent could be mobilized up to 90 days without serious impact to their civilian practice, however, extended deployments beyond 90 days had a severe negative impact. In late 1999 the Army conducted a pilot program deploying RC physicians, dentists, and nurse anesthetists for 90 day rotations. In 2001 a follow-on survey was conducted which validated the finding that RC physicians, dentists, and nurse anesthetists could deploy for that period of time without adversely affecting their private practice. The Army rotation policy was modified in early 2003 to provide for 90 day "Boots on the Ground" or BOG rotations either in the continental United States or outside of the continental United States for these specialties. Many medical professionals want the opportunity to serve their country. This policy enables them to stay with us in the Reserves and contribute to the mission.

PRE AND POST HEALTH ASSESSMENTS

We place a high priority on maintaining the health of Soldiers before, during, and after deployment. Before Soldiers deploy we closely monitor their Individual Medical Readiness (IMR). That means up-to-date immunizations, periodic health assessments, screening tests and medical equipment (ear plugs, eyeglasses, etc.). We are working on uniform metrics to inform commanders on the state of medical readiness of their troops.

For the first time in military history, we are implementing a systematic process of capturing this information. All of this data is part of the pre-deployment health assessment, which provides baseline information on the Soldier's health status before deploying. Upon redeployment all Soldiers are required to fill out a post-deployment health assessment form. We are working on ways to improve the collection of this data, to include using hand-held devices that can electronically download the information into the central record-keeping repository. Once the information is captured electronically, the TRICARE online web portal can be used by the Soldier's medical provider to access the record. Department of Veterans Affairs can also access the information from the individual's medical record, which is available to the VA upon the Soldier's separation from the military.

Despite these advances in management and use of our databases, we in the Army recognized the need for improvement. First and foremost, we realized the limitations of paper forms for pre- and post-deployment health assessment. Completing, copying and shipping paper forms from a worldwide deployed and busy Army was a process that was difficult to comply with, and almost impossible to oversee. In September 2002, we launched an initiative to improve our assessment process by automating the collection, distribution, and archiving of the data. The first automated assessment form on the internet was activated on April 1, 2003. A hand-held computer variant of the enhanced (four-page) post-deployment program was deployed to the Central Command Area of Operations (CENTCOM AOR) and to Europe beginning in August 2003. From June 1, 2003 through February 27, 2004, we have received 127,696 automated health assessment forms, which comprise about one-third of all forms received during that period. Automated pre-deployment health screening was accomplished for the entire Stryker Brigade Task Force before it deployed in November 2003, and is approaching 100 percent for the 39th and 81st enhanced Separate Brigades. In Kuwait, all post-deployment health assessments are automated; in Iraq, about half of all screening is performed using the automated form.

In November 2003, the Army initiated a formal deployment health quality assurance program. This program includes audits of the deployment health assessment program on Army installations. Audits have been conducted at six Army installations (Forts McCoy, Drum, Lewis, Hood, Stewart, and Bragg). These audits reveal that compliance with the Army pre- and post-deployment health assessment program is generally higher than indicated by comparison with Army personnel databases, and is likely to rise further with automation support and standardization and centralization of Soldier readiness processing on installations and across the Army.

LOWEST KIA/WIA RATIOS

Our died of wounds rate after receiving some level of care in OIF is 1.5 percent, the lowest in recorded warfare. A variety of factors have contributed to this, to in-

clude body armor and Forward Surgical Teams (FST). FSTs bring resuscitative surgical skills far forward on the battlefield and apply life-saving techniques that preserve the A-B-Cs of life: airway, breathing, and circulation. They target the 15–20 percent of wounded who, without care within the first hour after wounding, would die while being evacuated to the combat support hospital. Uncontrollable hemorrhage has been the major cause of death in this group in previous wars. The FST is well equipped to identify and stop bleeding by using a hand held ultrasound machine which can identify internal bleeding.

TRANSITION TO THE DEPARTMENT OF VETERANS AFFAIRS

Our goal for injured and ill Soldiers is to effect a seamless transition of care from DOD to the VA health care system. In September 2003, Secretary Brownlee put together a Disabled Soldier Liaison Team (DSLTL) specifically to look at the transition process for our most severely disabled Soldiers and make recommendations to improve that process. The mission of the DSLTL was to assist Soldiers in their transition from the Army to the Department of Veterans Affairs Health Care system. The team was chartered to help Soldiers understand the VA system and their benefits. Our efforts in the medical department focused on identifying and appointing case managers/discharge planners who served as the primary point of contact with the VA. The VA also designated OIF/OEF coordinators in each of their regional offices and provided staff at our busiest medical centers to facilitate a Soldier's transition into their system. We currently have five VA coordinators physically located at Walter Reed Army Medical Center who provide personal liaison support between Soldiers and the VA.

READINESS

One of the key successes in fighting the war on terrorism has been our use of special medical augmentation teams (SMART). The Army Medical Department has used this reach back capability to our sustaining base to provide world-class expertise on the ground to support the Warfighter. We have rapidly deployed subject matter experts in leishmaniasis, pneumonia, mental health and environmental surveillance, to name a few, into Iraq or Afghanistan to provide assessments and recommendations to the command. A prime example of this capability is the environmental surveillance team from the U.S. Army Center of Health Promotion and Preventive Medicine (CHPPM) that was deployed to Iraq to assess an evolving concern near a nuclear research facility. An infantry regiment was operating within a few kilometers of the Tuwaitha Nuclear Research Facility. Concerns were raised about possible radiation and chemical exposures to U.S. service members and local civilians due to looting. A SMART Preventive Medicine Team from CHPPM deployed into the area to assess the Tuwaitha facility, which included a site inspection and environmental sampling. All of the field data, reports, and potential health risks were communicated to field commanders and Soldiers. Due to weather conditions, short exposure time, conditions of exposure, and location of troops relative to the site, the resultant health risk was low based on U.S. peacetime standards.

In July 2003 the Army Medical Department chartered a team of mental health experts from CONUS treatment facilities around the nation to assess mental health issues in Iraq. Specifically, the mental health team was organized to assess the July increase in suicides in OIF, evaluate the patient flow of mental health patients from Theater, and assess the stress-related issues Soldiers were experiencing in a combat operation. This was the first time a mental health assessment team has ever come together and conducted a mental health survey with Soldiers in an active combat environment. The team remained in Iraq for six weeks and with the support of the combatant commanders, traveled to several base camps conducting their assessment.

The AMEDD also has nationally recognized experts in the chemical, biological, radiological, and nuclear (CBRN) field, which can be formed into SMART teams to rapidly respond to a CBRN threat either CONUS or OCONUS. These experts come from our medical centers, the U.S. Army Medical Research and Materiel Command, CHPPM, and the Army Medical Department Center and School. Their expertise ranges from medical surveillance and epidemiology to casualty management. The AMEDD Center and School also has developed a number of short and long courses addressing CBRN topics which can be taught in house or exported to our treatment facilities. CBRN training has been incorporated into the Soldiers' common skills training, advanced individual training, leadership courses, primary care courses, and a number of other avenues.

Our partnerships and collaboration with civilian counterparts is crucial in training our medical force. The U.S. Army Medical Research Institute of Infectious Dis-

eases (USAMRIID) at Fort Detrick, MD, is a great national resource of expertise on testing methods to eradicate dangerous diseases. USAMRIID is partnering with the National Institutes of Allergy and Infectious Diseases (NIAID) and the U.S. Department of Agriculture (USDA) towards building a synergistic biodefense campus. The goal is to leverage the knowledge and capabilities of these research institutions by co-locating them on a single campus to fight the Global War on Terrorism.

GARRISON CARE

The AMEDD is a \$9 billion per year enterprise whose business is to take care of the Soldier, the family member and the retiree. Managing this complex organization with its many missions requires a structured system that directs the members towards a common goal. The system in place today is the balanced scorecard, which uses a building block approach to guide the organization in making the right decisions at the right time. The AMEDD is continually measuring itself and using assessment tools to ensure best business practices are in place and being used. The Decision Support Center sends out patient satisfaction surveys to measure a patient's satisfaction with a provider at a particular treatment facility. This type of feedback is invaluable in identifying where the organization is doing well or where the organization needs to improve.

The AMEDD has used funds to establish venture capital projects and advanced medical practices initiatives to help military treatment facilities improve delivery of health care. Such projects include hiring certain specialties in a particular field to bring in more patients, renovating clinic space or purchasing new equipment to capture a particular market niche. Each project is required to have a business case analysis that must demonstrate the project will pay for itself within three years. This type of program helps commanders make better business decisions and saves money for the AMEDD in the future.

Our health care delivery system is poised to move into the next generation of TRICARE contracts. The new contracts are performance based and have been designed to control costs through incentives for the direct care system and for the contractors. Its goals are to increase beneficiary satisfaction and improve portability. Transition activities at every level of the military health care system and within contractor organizations demonstrates a full commitment to a successful transition. For the AMEDD specifically, there is a TNEX Transition Task Force that has developed a transition task list that identifies critical, time sensitive tasks that must be accomplished in sequence for the transition to be successful at the MTF level. Transition activities include training and educating staff on market management and revised financing. The Transition Task Force trains and develops personnel in key positions such as future commanders, data analysts, and health care administrators in executive level positions. We look forward to this exciting era of change, which will begin in June of this year.

Complimenting our delivery of health care is the availability of housing for visiting family members. Through the philanthropic efforts of the Fisher Foundation, there are 14 Fisher Houses operating at 9 locations. In fiscal year 2003 the Army Fisher Houses served 2,560 families, providing 39,680 family-nights of lodging. We estimate that staying in a Fisher House saved these families over \$1.5 million in out of pocket lodging costs. The average length of stay per family was 15.5 days. The contributions that the Army Fisher Houses have made in supporting the families of our combat casualties from Afghanistan and Iraq have been uniquely valuable. Since March 2003, Army Fisher Houses have accommodated 851 families attending to service members who were injured in combat operations or in support of combat operations. The occupancy rate for the Fisher Houses at Landstuhl Regional Medical Command in Germany, Walter Reed Army Medical Center in the National Capitol Region and at Fort Sam Houston, San Antonio has averaged over 97 percent. Its obvious that the Army Fisher Houses provide a valuable benefit for military families.

In an effort to protect direct care funds, the Congress passed legislation restricting the flow of funds from the direct care system to the private sector care system and vice versa. With the new health care contracts using the best business practices, there are incentives built into the system to use the direct care side as much as possible. Restricting movement of Defense Health Program funds will not allow the military treatment facilities the flexibility to manage their resources efficiently. In the new management environment, military treatment facilities are incentivized to increase productivity by pulling more beneficiaries into their facilities. The Army appreciates the congressional intent to protect direct care funding, but we recommend that the fiscal year 2005 Defense Appropriations Act language remove this

restriction and allow flexibility to move funds to wherever care is delivered without a prior approval reprogramming.

SUMMARY

Health care is a key quality of life issue for our military. I am committed to providing that quality care throughout the spectrum of operations, from the foxhole to the regional medical center. The Army Medical Department recognizes its responsibility to the men and women who defend our nation, to their families who support them, and to the retirees who have contributed so much to our country. We are committed to providing all of them exceptional healthcare. Army medicine is more than an HMO. Our system of integrated care includes teaching centers, research and development organizations, health clinics, field hospitals, and much more. The direct care system is truly the medical force projection platform for our Army; the Army we support across the world and across the spectrum of conflict. We do this quietly and on a daily basis all the while integrating active, guard and reserve units in support of the Chief of Staff's vision of THE Army.

I would like to thank my fellow Surgeons General. Their support, teamwork, and camaraderie are much appreciated. I would also like to thank the Committee for its continued commitment to our men and women in uniform, the civilian workforce, and our beneficiaries.

Senator STEVENS. Admiral Cowan.

STATEMENT OF VICE ADMIRAL MICHAEL L. COWAN, SURGEON GENERAL, UNITED STATES NAVY

Admiral COWAN. Thank you, Chairman Stevens, Senator Inouye, and distinguished members of the subcommittee for inviting me here today.

We frequently hear it said that post-9/11 everything changed, but for us in Navy medicine much remains the same. In fact, the events that have occurred since September 2001 have continually reemphasized the importance of our total mission of force health protection.

The four pillars of force health protection are: first, to prepare a healthy and fit force that can go anywhere and accomplish any mission that the defense of this Nation requires of them; second, for our medical personnel to go with them to protect them from the hazards of the battlefield and deployment; third, to restore their health wherever protection fails while also providing outstanding and seamless health care for their families back home; and finally, to help a grateful Nation thank our retired warriors by providing them health care for life through TRICARE for Life.

We strive to create a healthy and fit force by supporting healthy lifestyles not just for our sailors and marines but for their families as well. Our long-term goal is to form partnerships with families to adopt healthy lifestyles that have positive effects through their lifetimes. Healthier behaviors result in a fit and healthy force and also reduce the need for restorative medicine later in life. We work closely with our people so they are less likely to become our patients.

Nearly one in six of naval medicine's deployable personnel are deployed today in support of operations on the global war on terrorism and in Iraq, and we will continue to operate at that rate for the foreseeable future. Forward medical personnel provide first responder, stabilization and forward resuscitative care at modular theater facilities, both ashore and afloat. Our theater hospitals are deployed independently or combined with other modules in a Lego-like fashion, a building block fashion, to provide essential care in theater. Definitive care is through a medevac process in fixed over-

seas and continental United States (CONUS) medical treatment facilities (MTF).

Naval medicine's most vital asset is our people. Attracting skilled professionals and, equally importantly, retaining them to take advantage of their experience and enhanced skills represents one of our more significant challenges.

We continue to support ongoing efforts implementing the Presidential task force recommendation to pursue sharing collaboration with the Department of Veterans Affairs, specifically to optimize the use of Federal health care resources. I believe that our progress in these collaborations is one of our great success stories.

We worked hard to get the best value from every dollar that Congress has provided, and your assistance is needed to help restore the flexibility to manage funds across activity groups. Fenced private sector funds prevent transfer from the MTFs to private sector and prevent transfer from private sector to the MTF's. This does not allow us to increase productivity in the MTF's without the burden of prior approval reprogramming. This is very important in the upcoming year because the new T-NEX contracts with their incentives to move care into the MTF's make restoration of the flexibility all the more vital.

We continue to work on the forefront of technology, and I would specifically highlight information technologies to include the development of naval medicine online. This communication tool will be the key to knowledge sharing throughout naval medicine as an enterprise, allowing the right information to flow to the right people at the right time whenever and wherever it is needed. Naval medicine is also committed to transforming the naval/Marine Corps infrastructure and services.

We are further committed to the Chief of Naval Operations (CNO) transformational vision for projecting decisive joint capabilities from the sea, SeaPower 21. Examples of that transformation abound throughout naval medicine where hard work in identifying deficiencies and cutting costs have resulted in multiple opportunities to support the recapitalization of the Navy. This transformation is not limited to shore facilities. It includes remaking our fleet assets to include the reconfiguration of forward medical assets from cold war era platforms to the smaller and more agile task-oriented units that we deploy today.

Finally, we are right-sizing our active forces to the best mix of active, civilian, and contract personnel to bring the right capability to bear and in alignment with the CNO's vision. We have reconfigured and integrated naval reserve components in very different ways to shape missions, along with the active component, creating a single unified force and assuring the very best use of the skills and talent of all of our medical personnel.

We are effecting positive change throughout naval medicine, embracing the CNO's vision, and I am confident that we are on the right course for the challenges ahead.

PREPARED STATEMENT

I share General Peake's gratitude and sense of having been honored by the work and the interest of this committee, and I thank you for everything that you have done with us and for us during

my time as the Navy Surgeon General. It has been a privilege to serve.

[The statement follows:]

PREPARED STATEMENT OF VICE ADMIRAL MICHAEL L. COWAN

Chairman Stevens, Senator Inouye, distinguished members of the subcommittee, thank you for inviting me here today. Each year, the Navy Surgeon General has the privilege of appearing before the Senate Appropriations Committee Subcommittee on Defense to provide an update on the state of Naval Medicine. It has been a year of challenges met and rewards reaped, and of maturing of programs that we undertook in the wake of September 11, the anthrax attacks by terrorists unknown, and the prosecution of the Global War on Terrorism.

Force Health Protection is the primary focus of Naval Medicine. Force Health Protection is comprised of four mission objectives: (1) Preparing a healthy and fit force that can go anywhere and accomplish any mission that the defense of the nation requires of them; (2) go with our men and women in uniform to protect them from the hazards of the battlefield; (3) restore health, whenever protection fails, while also providing outstanding, seamless health care for their families back home; and (4) help a grateful nation thank our retired warriors with TRICARE for Life.

Naval Medicine balances all these actions to make force health protection work and see that all our beneficiaries get the outstanding healthcare they deserve. Wherever our Marines and Sailors at the tip of the spear deploy, we are along side them as we provide operational support in the Global War on Terrorism, achieving very low disease and combat casualty rates on the battlefield. The lessons we've learned from previous wars have led us to innovations toward a new level of agility and capability. Today, Expeditionary Medical Units are being built and fielded. These are complete lightweight tent hospitals that can be airlifted on site within days, and smaller units, Forward Resuscitative Surgery Systems, can be deployed to the action and made ready for patient care within hours. They, staffed with their "Devil Docs," have proven to be lifesavers for wounded Marines.

In defense of bio-terror attacks against our Nation, including the recent ricin attack at the Dirksen Senate Office Building, the Naval Medical Research Center, has made great advances in developing enhanced, rapid analysis and confirmation processes. These innovations have directly supported the nation's security and are a vital component in protecting our military fighting a war both abroad and here in the homeland.

Naval Medicine provides the most visually recognizable healthcare facility in the world—the military treatment facilities aboard the distinctive white with red-crossed hospital ships USNS COMFORT and USNS MERCY. These ships are symbols of life saving and caring that also send a clear message to our enemies: We are committed to our mission, and are prepared to take care of the casualties we may suffer to accomplish it.

Naval Medicine is an effective defensive weapon system for the Navy and Marine Corps Team. Naval Medicine treated every combat casualty within the critical "Golden Hour" through the use of new and innovative surgical units, such as the Forward Resuscitative Surgery System (FRSS). We reconfigured our Cold War era Fleet Hospitals to become more agile, mobile 116 bed Expeditionary Medical Facilities that are being used to support operations around the world. Sailors and Marines can be confident that they will have world class health care professionals at their side at all times—at sea or ashore.

Force Health Protection remains our primary mission. We strive to create a healthy and fit force through encouraging and supporting healthy lifestyles not only for our Sailors and Marines, but for their families as well. Our goal is to form a partnership with our families to help them adopt healthier lifestyles that will have a positive effect throughout their lifetimes. These healthier behaviors will not only result in a fit and healthy force, but will reduce the need for restorative medicine later in life. We work with our people so that they will be less likely to become our patients.

We recognize that health care is a major retention and recruitment issue as well as a readiness issue, and strive to provide world-class care not only to the families of our Sailors and Marines, but to retired service members and their families as well. Naval Medicine is implementing Family Centered Care initiatives to increase patient satisfaction and continuously improve on our delivery of patient care. If we can retain our families within the direct health care system, Naval Medicine can continue to assist them with the tools to form healthy habits throughout their lives.

FORCE HEALTH PROTECTION

Force Health Protection is a continuum of services designed to create and maintain a healthy and fit force. This continuum begins with medical and dental screening during induction into the service, followed by annual preventive health assessments, regularly scheduled physical examinations, pre and post deployment assessments and ending with separation or retirement physicals. Health care professionals participate and review every assessment along the continuum. The same schedule of physical assessments is followed for both active duty and reserve service members.

Over 100,000 Navy and Marine Corps personnel completed post deployment health assessment forms since April 2003. Primary care providers then interview service members if there are any indications of deployment related illnesses or injuries, or changes in their health concerns. Service members may be referred for additional specialty care if indicated. As of March 2004, 7 percent of active-duty and 15 percent of reservists required post deployment medical referrals.

DEPLOYMENT MEDICINE

In support of Operation Iraqi Freedom (OIF), over 7,300 active and reserve Naval medical personnel were deployed or mobilized, at sea or shore. From the battlefield Hospital Corpsmen to the Forward Resuscitative Surgery System (FRSS), the Fleet Hospitals (FH) and the hospital ship USNS COMFORT, and to the National Naval Medical Center (NNMC), Bethesda, wounded, injured, and sick Coalition Force warriors, Iraqi prisoners of war, Iraqi civilians (displaced persons) received the highest quality medical care possible.

Our readiness platforms include two 1,000 bed hospital ships, 6 active duty and 2 Reserve Fleet Hospitals as well as special medical units supporting Casualty Receiving and Treatment Ships (CRTS) and smaller, organic units assigned to augment the Marine Corps and overseas hospitals.

Nearly one in six of Naval Medicine's deployable personnel are deployed today in support of operations fighting the Global War on Terrorism and will continue to operate at that rate for the foreseeable future. Forward medical personnel provide first responder, stabilization and forward resuscitative care at modular theater hospitals, both ashore and afloat in theater. Our modular theater hospitals can be employed independently or combined with other modules to provide essential care in theater. Definitive care is provided in fixed overseas and CONUS military medical treatment facilities.

During Operation Iraqi Freedom, Naval Medicine employed a new type of unit to provide far forward surgery. The Forward Resuscitative Surgery System (FRSS) was developed to provide forward surgical capability to support the Marine Corps' Regimental Combat Teams. The FRSS is staffed with a team of two general surgeons, one anesthesiologist, one critical care nurse and four Hospital Corpsmen. The FRSS can accommodate 18 casualties in 48 hours without re-supply. During OIF, six FRSS teams treated 96 casualties and performed 153 surgical procedures during combat operations.

This year has also seen the introduction of the Forward Deployable Preventive Medical Unit (FDPMU) designed to assess, prevent, and reduce health threats in support of deployed operating forces. Other missions for the FDPMU include humanitarian assistance, consequence management, and disaster relief operations. Capabilities can include chemical, biological, and radiological agent detection and identification, as well as toxic environmental chemical detection and identification.

The Forward Deployable Preventive Medical Units are capable of deploying within 96 hours, can serve as a joint force asset to provide specialized preventive medicine, and CBRN response services in support of force health protection to combatant commanders and Joint Task Force Commanders. Naval Medicine has elements of two FDPMUs currently deployed to Iraq and elements of another FDPMU currently deployed to Haiti.

Our mobile platforms continue to be refined, making them more agile and adaptable to specific missions. Transformation efforts continue by the Fleet Hospital Program with the continued development and refinement of the Expeditionary Medical Unit (EMU). The EMU provides both forward stationed and CONUS-based forces the ability to rapidly deploy, employ, sustain and redeploy scalable medical capabilities to austere regions of the globe. The transformation process from Fleet Hospitals to EMUs is planned to continue over the next several years as we reshape our forward presence to a lighter, smaller and more agile force.

EMU Alpha was deployed to Djibouti in September 2003 and is still receiving patients. NH Jacksonville is providing the staff for EMU Alpha.

As part of the post Operation Desert Storm lessons learned analysis, Naval Medicine embarked on an extensive effort to better organize and train our wartime-required active and reserve medical force, while at the same time optimizing our peacetime healthcare benefit mission. Naval Medicine developed and implemented a CONUS readiness infrastructure strategy that aligned specific operational platforms to a single Military Treatment Facility (MTF), along with the active duty and reserve manpower required to perform both wartime and peacetime missions. This readiness alignment strategy provides the MTF commander with the authority and the resources to balance wartime readiness and peacetime benefit missions.

As a result of this new structure, Naval Medicine can employ "Tiered Readiness." This strategy allows platform rotation to support ready surge requirements. Each platform and their parent Medical Treatment Facility (MTF) will be on a scheduled rotation: for six months, two MTFs and their supporting Fleet Hospital personnel will have to be ready to deploy within 10 days. Three additional Fleet Hospitals and their parent MTFs have sixty days to prepare for a possible deployment. Finally, there is a sixth Fleet Hospital, in reserve, which must be ready to deploy within 120 days. Tiered Readiness enables Naval Medicine to plan, prepare and meet our operational commitments and is in synch with the Chief of Naval Operations' transformational vision for the United States Navy.

NAVAL MEDICINE OFFICE OF HOMELAND SECURITY

Winning the Global War on Terrorism is job #1 and Naval Medicine brings many assets to bear in this fight. As its Surgeon General, I think of Naval Medicine as a "Defensive Weapon System", which, in addition to providing the highest quality medical care to our warfighters, also can take action to deter threats through such mechanisms as delivering vaccines that eliminate specific disease threats. We have sophisticated technologies designed to detect biological, chemical and radiological threats before they cause harm, and we have highly trained medical personnel who can identify early signs of an intentional or natural disease outbreak that could degrade our military effectiveness if unrecognized. Naval Hospitals and clinics are vital national security assets that are a cornerstone of both force health protection and the National Disaster Medical System.

The Naval Medicine Office of Homeland Security, only in its second year, continues to make great contributions to our Force Protection, disaster preparedness, and homeland security missions, both here and abroad. Naval Medicine continues to execute cutting edge initiatives to ensure our hospitals and clinics around the world can continue to provide care for all who depend upon us—even in the event of an attack or disaster. Presently, we are executing an enterprise-wide program to strengthen our effectiveness in responding to disaster. The Disaster Preparedness, Vulnerability Analysis, Training and Exercise (DVATEX) Program has been conducted at 24 of our 30 military treatment facilities. It employs a comprehensive vulnerability analysis of all hospital operations in a disaster or terrorist attack. DVATEX provides emergency preparedness education thus far to over 5,000 Naval Medicine personnel, and it has exercised hundreds of our people, alongside their loyal civilian counterparts, to improve integration during an emergency.

DOD is about to deploy a web-based training program that will be used to educate physicians, nurses and other health care providers on response to chemical and biological emergencies. Originally developed for Navy use, the program has been adopted by the MHS and the Defense Medical Readiness Training Institute is preparing it now for educating personnel in all three Services.

NAVAL MEDICINE'S PEOPLE: A MANPOWER STATUS

Naval Medicine's most vital asset is its people. Attracting skilled professionals and, perhaps more important, retaining them to take advantage of their experience and enhanced skills, is one of Naval Medicine's greatest challenges.

Naval Medicine strategies to recruit and retain the best people include a multi-faceted and highly coordinated approach: The professional and educational needs of our health care professionals must be met to ensure they, at a minimum, are equal to their civilian counterparts. Their work environment must be supportive of their contributions and accommodating to their special needs, missions and requirements, while continuously challenging them professionally. Finally, their financial compensation must be sufficiently competitive with their civilian counterparts for us to attract and retain the right people.

We require our Naval Medicine professionals to have the same skills and qualifications as their civilian counterparts, and also require of them additional unique personal and professional challenges. A status of Naval Medicine's people is below:

Medical Corps

At the beginning of fiscal year 2004, the Navy's Medical Corps was manned at approximately 101.8 percent. Navy Medicine is working on community management initiatives to ensure more of a balance between specialties. The attrition rate for fiscal year 2003 was 9.2 percent, with the three-year average rate at 8.9 percent. Attrition is expected to be higher in fiscal year 2004, due to the number of requests for resignation and retirement that have already been received. High operational tempo and longer deployment durations have been cited as major reasons for this increase.

Despite success at manning and retaining skilled professionals at the Medical Corps' top line, several critical specialty areas remain undermanned. These specialties are: Anesthesia (85 percent), Cardiology (57 percent), Pulmonary/Critical Care (76 percent), Gastroenterology (79 percent), General Surgery (88 percent), Infectious Disease (89 percent); Pathology (85 percent), Urology (85 percent), and Radiology (75 percent). Not surprisingly, surgical specialists, anesthesiologists, cardiologists, gastroenterologists, and radiologists continue to be the most difficult to recruit and retain because of the high salaries offered in civilian practices.

Medical Special Pays

To be competitive in a marketplace with a limited number of qualified applicants and retain them once they have chosen Naval Medicine, adequate compensation is critical. The civilian-military pay gap has increased steadily, which makes it difficult to recruit and retain physicians in high demand specialties.

Dental Corps

At the close of fiscal year 2003, the Navy Dental Corps was manned at 91 percent. Despite aggressive efforts to improve Dental Corps recruitment and retention, the annual loss rate between fiscal year 1997 and fiscal year 2003 increased from 8.3 percent to 11.7 percent. In addition, declining junior officer retention rates has negatively impacted applications for residency training programs, which have dropped 18 percent over the last five years. The civilian-military pay gap and the high debt load of our junior officers are the primary reasons given by Dental Corps officers leaving the Navy.

Nurse Corps

At the close of fiscal year 2003, the Navy Nurse Corps was manned at just under 98 percent. The nursing shortage nation-wide has made the Navy's competition for recruiting and retaining skilled nurses a challenge. It has been further challenged by the Nurse Reinvestment Act, which offered loan repayment and sign-on bonuses to nurses in the civilian sector. Naval Medicine continues to meet military and civilian recruiting goals and nursing requirements by using a broad range of accession sources, pay incentives, graduate education and training programs, and retention initiatives that include such quality of life and practice opportunities as leadership challenges, operational experiences, promotion opportunities, and diversity in assignments with job security. The Nurse Accession Bonus, Certified Nurse Anesthetist (CNRA) Incentive Pay, Board Certification Pay, and Special Hire Authority are all initiatives that are critical in supporting Naval Medicine's success in meeting its nursing wartime and peacetime missions.

Medical Service Corps

Medical Service Corps manning at the beginning of fiscal year 2004 was 95.6 percent. The loss rate increased from 6.8 percent in fiscal year 2002 to 7.2 percent in fiscal year 2003. Loss rates vary significantly between specialties and certain specialties continue to have either shortages or experience gaps caused by low continuation rates at the junior officer pay grades. The potential effects of successive military deployments and the military to civilian billet conversions on retention and recruiting are being monitored closely.

The majority of Medical Service Corps officers enter military service directly from the private sector and have funded their own professional education. Many Medical Service Corps officers incur significant educational debt prior to commissioning and active Naval service. Additionally, there is an increasing number of doctoral and masters level educational requirements for certain healthcare professions with the increase in qualifying degree requirements, further exacerbating the educational debt load of our newest officers.

Biochemists, microbiologists, entomologists, environmental health officers, radiation health officers and industrial hygiene officers are integral members of Chemical, Biological, Radiation, Nuclear & Environmental (CBRN&E), homeland security, and operational readiness requirements and initiatives. With their strong educational background, significant work experience and security clearances, these offi-

cers are prime recruiting targets for civilian enterprises working in parallel with Department of Defense and Department of Homeland Security missions.

Hospital Corps/Dental Technicians

The Hospital Corps manning at the end of fiscal year 2003 was 94 percent. Like the Medical and Dental Corps, some specialty areas, identified by their Navy Enlisted Classifications (NEC) struggle to remain manned above 75 percent. In the operational forces, the Marine Corps reconnaissance Hospital Corpsman specialty is currently manned at 44 percent. In Naval Military Treatment Facilities, cardio-pulmonary technicians are manned at 72 percent, bio-medical repair technicians at 72 percent, morticians at 56 percent, respiratory technicians at 73 percent, and basic SEAL hospital corpsman at 70 percent of authorized levels. Manning for the Dental Technician rate is at 95 percent of authorized levels.

Initiatives to ensure consistent manning levels, as well as to bolster undermanned NECs, include the Navy's Perform to Serve program, which allows sailors in other rates to transfer or "cross-rate" into the Navy Hospital Corps and acquire NECs in critically undermanned areas. A current initiative to merge the Hospital Corpsman and Dental Technician rates into a single rate may help bolster NECs with poor manning levels.

Rightsizing the Force

Navy Medicine is converting 1,772 non-readiness military manpower positions (billets) to civilian/contract positions in fiscal year 2005. All of these positions are at CONUS MTFs or DTFs. OCONUS and operational commands are unaffected.

The final determination of which billets will be converted has not occurred yet. The draft list of the 1,772 billets under consideration was identified from a larger list of approximately 5,400 over Total Health Care Support Readiness Requirement (THCSRR) billets that Naval Medicine has been studying. Our manpower and resource management experts are working closely with representatives from the Medical, Dental, Medical Service, Nurse and Hospital Corps Chiefs/Director's Offices, and the Center for Naval Analyses (CNA). Factors to determine the final 1,772 positions include readiness impact based on emerging threats, community manning levels, the cost of conversion, and skill availability in the market place.

This initiative is very much in line with Navy's fiscal year 2004 human resource philosophy, which includes maximizing civilian and contract personnel for non-military essential (non-readiness) positions. The conversion of these positions will help alleviate the stress on the operating forces and ensure that military personnel are used to perform tasks that are military essential.

NAVAL MEDICAL EDUCATION AND TRAINING COMMAND

I am pleased to report to the Committee that the Naval Medicine Education and Training Command, or NMETC, has successfully progressed as the central source of learning for all Naval Medical personnel. The five learning centers comprising NMETC are co-located with the Fleet on the east, west and southern coasts along with basic recruit training in Great Lakes, Illinois and Naval Headquarters here in Washington.

NMETC has established itself as the Learning Center for Force Health Protection and is in precise alignment with Navy's Sea Warrior program. It has demonstrated being on par with the line Navy in implementing the Chief of Naval Operations' Revolution in Training by way of the 5 Vector model which when fully operational, will show sailors what they need to learn, how to access that learning and provide a career road map, which tracks their learning and promotion potential. The Naval Medical Department has increasing numbers of subscribers to the new web-based Navy Knowledge Online or NKO, and is utilizing the growing number of NMETC developed courses to enhance their learning. They are also rapidly beginning to share and manage their knowledge in an environment of community practice—all in one place, in real-time, in NKO. By increasing our partnership with civilian academe, we've exploited its skills and knowledge to enhance the learning of our Sailors by exposing them to newer ways of thinking and state of the art technologies.

NMETC has established a Naval Reserve medical liaison that provides input concerning the rapidly evolving requirements of the Naval Reserve and thus utilizes our Reserve partners in ONE Naval Medical education and training service.

Our "A" School, the Naval Hospital Corps School, is in the lead to see that our young Sailors, both in Active and Reserve components, are economically and efficiently trained. This is demonstrated by an improved technology-based program to train Hospital Corpsmen in a blended learning environment available both in the classroom, and non-traditional settings. Our instructors are highly trained and many come directly from the operational arena.

The Naval Schools of Health Sciences in Portsmouth and San Diego integrate the precepts of Force Health Protection into every aspect of the training and educational curricula and programs. The Commanding Officers personally lead this effort through military training, leadership and physical fitness. Their mission, to support readiness through leadership in advanced medical training, is designed to meet the needs of military medicine in conflict and in peace. It is the cornerstone for all facets of each training program. All courses include learning modules directed towards the protection and self-treatment of that sailor and other casualties resulting from weapons of mass destruction. Many of our instructors are fresh from the Fleet and the Fleet Marine Force, and bring enormous operational experience to new students in the classroom. We have incorporated experiences from Operation Enduring Freedom and Operation Iraqi Freedom into various training programs such as the Joint Special Operations Medical Training Center at Fort Bragg, which teaches trauma and emergency care skills to corpsmen attached to SEAL Teams and reconnaissance units.

Projected training requirements for fiscal year 2005 through fiscal year 2010 show an increase in the total numbers of personnel to be trained as Independent Duty Corpsmen, Laboratory Technicians, Search and Rescue and Preventive Medicine Technicians to support operational readiness. We are committed to support and to participate with the medical activities of our sister services by continuing our relationships with other DOD training organizations that prepare medical personnel for delivering care to the Fleet as well as in integrated operational environments.

As a primary deliverer of skills sets for Sea Warrior, our schools provide benchmark model training programs where students in cardiovascular technician, nurse anesthesia, physician assistants, preventive medicine technician, surgical technician, medical laboratory and nuclear medicine technician exceed professional national certification rates by as much as 30 percent thus, augmenting the Chief of Naval Operations' "Revolution in Training."

The Naval Operational Medical Institute, or NOMI, with its specialty detachments, is our dedicated operational training arm. It is fully engaged in preparing line and medical personnel to learn and implement survival and medical skills in hostile environments on land, in the air and on the sea. Recently, NOMI developed a training program and standards for Enroute Medical Care to personnel assigned to Marine Corps units with field medical evacuation requirements.

Naval Medicine at NOMI now has a Center for Medical Lessons Learned that provides feedback related to the operational environment. This helps to refine and improve requirements for training both at NOMI, as well as in our other training programs. The Medical Operational Lessons Learned Center is a web-enabled system that has captured 31 lessons learned to date from medical personnel who were forward deployed in support of operations. The Center is a single point for data collection and analysis of all Naval Medical observations and provides expeditious feedback related to the operational environment in areas such as readiness training, health services support delivery, logistics and field medicine.

As our duty, and part of the continuum of care, the Mitchell Center for Repatriated Prisoners of War performs approximately 450 extensive evaluations per year on former POWs, their spouses and comparison groups. The results of these studies have facilitated the minimization of the development or worsening of post-traumatic stress disorder and other physical and mental conditions among former prisoners of war.

NOMI is also our service's lead on the Trauma Combat Casualty Care Committee. Civilian trauma experts participate in this Triservice Committee, which produces guidelines integrated into special operations curriculum. These guidelines have also been published as a chapter on military medicine in the most recent Pre-Hospital Trauma Life Support Manual. This manual is also being utilized by the civilian EMT-paramedic community to enhance first responder training and capabilities within police, fire, and rescue services.

In fiscal year 2003, our schoolhouses prepared 8,732 medical department enlisted and officers to join the Fleet and Marine Corps medical components and to staff our Military Treatment Facilities, research commands and other support communities. Naval Medical personnel are ready to deploy wherever and whenever the Naval Services deploy, and much of the time are the only direct care providers in the field and especially at sea.

In addition to preparing for the operational arena, our educational programs include learning opportunities in healthcare management, fiscal responsibility and efficient direct healthcare delivery. We are ensuring Force Health Protection by producing highly qualified, technically competent personnel to directly support the Navy and Marine Corps in any mission the Commander in Chief calls upon them to carry out.

UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

As the Executive Agent for the Uniformed Services University of the Health Sciences (USUHS) and a member of the Board of Regents, I am pleased to announce that the University recently received a ten-year accreditation with commendation from the Middle States Commission on Higher Education. This is a noteworthy accomplishment and it reflects well on the successful, on-going commitment of the University to provide the highest levels of professional health care education for our Nation's Military Health System (MHS).

The quality of the USUHS alumni ensures that the intent of the establishing legislation, The Uniformed Services Health Professions Revitalization Act of 1972, is being realized. The military unique curricula and programs of USUHS, successfully grounded in a multi-Service environment, draw upon lessons learned during past and present day combat and casualty care. USUHS alumni, 3,421 physicians, 200-advanced practice nurses and 798 scientists, have become an invaluable and cost-effective source of career-oriented, dedicated uniformed officers. Our University graduates volunteer in large numbers for deployment or humanitarian missions; they serve proficiently in desert tents, aboard The Hospital Ship COMFORT, and during air evacuations. USUHS graduates embody the University's mission-driven goal of Learning to Care for Those in Harm's Way; they are equal to their sacred mission of providing care to our Nation's most precious resource—the men and women who serve in the Armed Forces.

I would also like to take a moment to recognize the USUHS President, James A. Zimble, M.D., VADM, USN (retired), and 30th Surgeon General of the Navy, who has successfully guided our University for the past thirteen years. Dr. Zimble served our Nation for over 40 years, will retire in August of 2004. Under his leadership, the University has become the Academic Center for the Military Health System; during his tenure, the University has achieved peer recognition, on-going accreditation with commendation from 14 accrediting entities, and the Joint Meritorious Unit Award from the Secretary of Defense. He is a public servant who has unselfishly dedicated the better part of his life to Caring for Those Who Serve in Harm's Way. I wish him the very best in his well-deserved retirement. He will be greatly missed.

HEALTH CARE DELIVERY

Naval Medicine continually examines our methods of delivering services to ensure that they are the best value for Naval Medicine, the MHS and our beneficiaries. We focus on increasing our efficiencies, but will never compromise clinical quality, access to care, customer satisfaction or staff quality of life to achieve that goal.

This year the Bureau of Medicine and Surgery (BUMED) developed a business planning model that combined standard business planning methodology with an automated business planning tool. This new process requires all activities in Naval Medicine to develop, submit, and monitor a comprehensive annual business plan that is integrated with their existing financial plan. This methodology takes into account the changes in our financing due to the TRICARE for Life program, the prospective payment system and the TRICARE Next Generation contracts. The automated tool takes information from seven different data sources to help local commands and headquarters personnel identify variations in cost and productivity for the same services between MTFs. It also helps identify high cost, low productivity services provided at local MTFs. We are providing specialized training to the senior leaders in our MTFs, to ensure that their business plans optimally represent the size and diversity of services provided at their facilities. Our goal is to reduce the variation in cost and productivity between our MTFs, driving out inefficiencies that will result in increased cost savings, patient satisfaction and quality of medical care rendered.

"Family-Centered Care" is one of the initiatives we have undertaken to provide best value for our beneficiaries. Family-Centered Care initiatives are intended not only to increase patient satisfaction and improve the delivery of care; they are intended to create partnerships between providers, patients, and their families by empowering patient's families to become active in the care plan. In the military, the definition of family must be expanded to include both immediate and extended family members as well as friends and the social support network of both single service members and spouses of deployed service members. Single service members create virtual families' through a social network within and outside their units. Family-centered care must incorporate this non-traditional type of family support in the delivery of care. By partnering with patients and their families, we can retain them in the direct health care system. This will enable Naval Medicine to provide families with the tools to develop and maintain healthy habits throughout their lives.

Our first Family-Centered Care initiative includes significant improvements to perinatal services in order to integrate our young Sailors and Marines into our health care system during the time in which they are starting their families. Our MTFs have implemented numerous initiatives to provide increased quality of service for expectant women and their families. These initiatives include: increased continuity with providers through prenatal visits with small care teams or individual providers; encouraging our providers to work with patients to create a birth plan for their deliveries; providing private post-partum rooms where possible; providing 24/7 breastfeeding support; DEERS enrollment by the bedside; and establishing a system to provide seamless transfer of care between MTFs during permanent change of station moves for expectant women. These initiatives have been successful in encouraging our patients to choose to deliver their babies in our MTFs despite the fact that they now have the choice to seek perinatal care in the civilian community.

In fiscal year 2003, Naval Medicine embarked on a global Case Management Program (CMP) in Navy MTFs. This program provided contract registered nurses and social workers to assist in the coordination of care for patients with complex illnesses or serious injuries. These professionals work with all disciplines within a medical treatment facility and within the TRICARE network to ensure that patients have a seamless transition in healthcare services, receive the proper referral to needed services and reduce the incidence of duplicate or unnecessary services. This program reduced health care costs, increased patient satisfaction and ensured high quality care for our beneficiaries.

Naval Medicine initiated a third Radiology Residency Program at the Naval Medical Center in Portsmouth, VA. This proactively addressed staffing issues in the most critically understaffed and expensive medical specialty in the Navy, immediately improving access to imaging services in the short-term while providing long-term specialty availability.

We have also invested in Pharmacy Automation Equipment at selected treatment facilities. This program leverages technology by using bar code scanners and computers to continuously track and monitor medication administered to our inpatients. This equipment greatly improves the safety of our patients by reducing the probability of unintended medication errors.

We continue to fund new pilot projects designed to increase our effectiveness in providing healthcare services. With our new business planning tool, we will be able to quickly identify those projects that successfully increase productivity and share those improvements in all of the MTFs throughout Naval Medicine. It is our intent to continuously improve our patient care delivery systems to ensure the best health care for our beneficiaries.

Patient safety is a top priority for Naval Medicine. Every MTF has a minimum of one full time staff member dedicated to coordinating command-wide patient safety initiatives. All of our MTFs participate in the MEDMARX system for medication error reporting that groups medication error events and near misses into five process nodes, allowing MTF staff to evaluate process changes that will increase the safety of medication administration. Naval Medicine also uses a standardized root cause analysis methodology that is used by both local MTF and headquarters staff to track and analyze trends in patient care systems that affect patient safety. All of our MTFs are required to submit monthly patient safety scores and receive a monthly Safety Assessment Score. These scores are used to assess overall MTF performance and are monitored closely.

We maintain our high standards through rigorous reviews. Our medical treatment facilities are reviewed by leading accreditation agencies including the Joint Commission of the Accreditation of Healthcare Organizations (JCAHO), Accreditation Council for Graduate Medical Education; the College of American Pathologists and the American Association of Blood Banks.

Naval Medicine has implemented through the JCAHO a major paradigm shift in the accreditation process of our MTFs: "Shared Vision-New Pathways". Shared Visions-New Pathways shifts the focus from survey preparation to continuous improvement of operational systems that directly impact the quality and safety of patient care. It is intended to force standards based process integration across all functional lines by using actual patient experience as a lever.

DOD/VA Resource Sharing and Coordination: Status on Implementation of Presidential Task Force Recommendation

Naval Medicine continues to support ongoing efforts implementing the Presidential Task Force recommendations to pursue sharing collaboration with the Department of Veterans Affairs specifically to optimize the use of federal health care resources. I believe our progress is one of our success stories. Site-specific sharing

initiatives, including in the key geographical areas as directed by the fiscal year 2002 and fiscal year 2003 Defense Authorization Acts, are occurring and continue to be developed.

Naval Medicine currently has 54 medical agreements, 34 Reserve agreements, 24 Military Medical Support Office agreements, and 13 non-medical agreements with the Department of Veterans Affairs. Naval Medicine has also partnered with the Department of Veterans Affairs on five medical facilities construction projects. These are:

- 1. *Naval Hospital Pensacola FL*.—This joint venture outpatient facility will be built on Navy property, and the VA will fund the project, and provide Naval Medicine with 32,000 square feet. This will be a replacement facility for Naval Medicine's aging Corry Station Clinic. Navy and VA have agreed on a site and negotiations continue on the amount of land to be allocated for construction and how services will be integrated to best serve both DOD beneficiaries and Veterans.
- 2. *Naval Hospital Great Lakes, IL*.—A fiscal year 2007 construction start has been proposed to build a separate Navy/VA Ambulatory Care Clinic on the grounds of the North Chicago Veterans Affairs Medical Center. Full integration planning has begun, with facility and site analysis to follow. The North Chicago VAMC is now providing emergency and inpatient services to Navy beneficiaries. Additionally, the North Chicago Veterans Affairs Medical Center will be available to the Navy for specified services with the Department of Veterans Affairs funding modifications of its surgical suites and urgent care facilities.
- 3. *Naval Hospital Beaufort, SC*.—A tentative fiscal year 2011 construction start has been planned for a replacement hospital. The Department of Veterans Affairs currently operates a small clinic within the existing hospital, and is expected to be a partner in developing the replacement facility.
- 4. *Naval Ambulatory Care Clinic Charleston, SC*.—A fiscal year 2005 construction start has been planned for a replacement clinic aboard Naval Weapons Station (NWS) Charleston. Navy has offered the Department of Veterans Affairs the options of an adjacent site onboard NWS or the take-over of the existing NWS clinic. The Department of Veterans Affairs is studying these options with a final decision to be made in the future.
- 5. *U.S. Naval Hospital Guam*.—A fiscal year 2008 construction start is planned for replacement of the current hospital. The Navy has offered the Department of Veterans Affairs a site for nearby freestanding community-based outpatient clinic. It's proposed that the Department of Veterans Affairs will fund the clinic, roads and parking, and will continue to utilize Navy ancillary/specialty care.

Other examples of partnerships that show the depth and variety of our collaboration include the development of uniform clinical practice guidelines for tobacco use and diabetes last year, and development of hypertension and low back pain guidelines scheduled for 2004. Asthma guidelines are projected for revision in 2005.

In the works is a VA/DOD agreement that would permit the use of North Chicago VA Medical Center spaces to establish a center to manufacture blood products in exchange for the use of these blood products. This agreement would alleviate the necessity for Naval Medicine construction costs for a new center at Naval Hospital Great Lakes. An agreement between the Bureau of Medicine and Surgery and the Department of Veterans Affairs headquarters to share each other's "lessons learned" databases is presently being developed.

Aggressive investigation of other mutually advantageous resource sharing possibilities is on-going at all Naval Medicine facilities with the focus of providing of our beneficiary populations—military and veterans, the outstanding healthcare they deserve.

DEFENSE HEALTH BUDGET FOR FISCAL YEAR 2004

One of Naval Medicine's greatest accomplishments is meeting the healthcare needs of all its beneficiaries—active duty, retiree, family members and eligible survivors. Nation-wide, healthcare costs are now increasing at the fastest rate in the last decade. Healthcare inflation continues to exceed inflation in other sectors of the economy. Utilization of healthcare services continues to increase as technology advances results in effective new—albeit sometimes costly—treatments and longer life spans.

In addition, as the news of TRICARE's quality and effectiveness spreads, and as the costs of other insurance programs rises, more retirees under 65 are dropping other health insurance and relying on TRICARE. From the trends of the past few fiscal years, it's estimated that in fiscal year 2004 there will be a 5.2 percent increase in this population.

DOD has ongoing programs that help control health care cost increases, such as building cost control incentives to managed care support contracts and competitively awarding these contracts for best value, and ensuring the pharmaceuticals delivered in our Military Treatment Facilities and through the TRICARE Mail Order Pharmacy Program are procured through using discounted federal government pricing. DOD and Naval Medicine management programs have also been utilized to ensure that healthcare provided to beneficiaries is reviewed for clinical necessity and appropriateness.

Naval Medicine has worked hard to get the best value from every dollar Congress has provided, but your assistance is needed to restore the flexibility to manage funds across activity groups. Fencing sector funds prevents transfer of funds from MTFs to the private sector, but also prevents transfer of private sector funds to the MTFs. This fencing prevents funding MTFs to increase their productivity without the burden of prior approval reprogramming, which can take anywhere from three to six months. The T-NEX contract, with its incentive to move care into MTFs, makes having this flexibility all the more vital. Two-way flexibility between the private sector care and direct care accounts is necessary for revised financing to function successfully. The Navy appreciates the congressional intent to protect direct care funding, but we recommend that the fiscal year 2005 Defense Appropriations Act language remove the separate appropriation for Private Sector Care to allow the flexibility to move funds to wherever care is delivered without a Prior Approval reprogramming.

TRANSITION TO THE NEXT GENERATION OF TRICARE CONTRACTS

TRICARE Next Generation has provided sweeping improvements in its provision of TRICARE Benefits under contracting initiated this fiscal year. While there will be no significant benefit changes, it simplifies the old contracts, and provides performance incentives and guarantees. It also distinguishes health plan management, which includes such activities as financing, claims, payment rates, marketing, and benefit design, from healthcare delivery. Some major elements of the old TRICARE contracts have been sifted out into separate contracts to allow companies with particular competencies in these contract areas provide even better service and quality healthcare.

The most obvious change is the transition from 12 regions to three, and enhancing leadership in each region by putting a Flag, General Officer or SES as director. This is a significant step in transforming TRICARE. These Regional directors have a key role in enhancing participation of providers in TRICARE and in implementing the plan to improve TRICARE Standard for those who choose to use it, and will also be responsible for integration of military treatment facilities with civilian networks, ensuring support to local commanders and overseeing performance in the region. Rear Admiral James A. Johnson, Medical Corps, is on board in the TRICARE West Region.

Medical commanders within these regions will also have an enlarged role and additional responsibilities under the new contracts, with the focus on accountability. Commanders will take on responsibilities formerly managed by the TRICARE contractor, including patient appointing, utilization management, use of civilian providers in military hospitals, and other local services.

The transition to the new TRICARE contracts in TRICARE West is going well, and all the services are working closely with TMA to make the transition phase as seamless as possible for our patients.

CLOSURE OF U.S. NAVAL HOSPITAL ROOSEVELT ROADS, PUERTO RICO

On February 12, 2004, U.S. Naval Hospital Roosevelt Roads, Puerto Rico officially closed its doors to patient care, ending more than 47 years of healthcare service to Department of Defense beneficiaries. The last time a Naval Hospital closed was almost nine years ago when Naval Hospital Long Beach closed as a result of the Base Realignment and Closure.

E-HEALTH

Naval Medicine continues to be on the forefront of technology with the development of Naval Medicine Online (NMO). This website allows one tool for all of Naval Medicine to obtain and access information from anywhere around the world. This technology will be the key to knowledge sharing throughout Naval Medicine as an enterprise, allowing the right information to be obtained by the right people at the right time—whenever and wherever it is needed.

NMO contains knowledge tools including File Cabinet that allows individuals to share documents and other electronic files; protected chat rooms that will allow

users to have secure communications with patients or other Naval Medicine personnel and news services that provide information of relevance to the Naval Medical community.

A key new function of NMO is the developer whiteboard. This tool allows Naval Medicine to leverage the brainpower of our workforce by placing software code in a secure area and allowing members of Naval Medicine to modify the code, making improvements useful to Naval Medicine. NMO also has online video teleconference capabilities and allows Naval Medicine personnel access to the Department of Veterans Affairs lessons learned database.

The Navy Marine Corps Intranet (NMCI) is a long-term initiative between the Department of the Navy (DON) and the private sector to deliver a single integrated and coherent department-wide network for Navy and Marine Corps shore commands. Under NMCI, EDS and their partners will provide comprehensive, end-to-end information services for data, video and voice communications for DON military and civilian personnel and deliver global connectivity to make our workforce more efficient, more productive, and better able to support the critical war fighting missions of the Navy and Marine Corps.

Naval Medicine is committed to transitioning to NMCI infrastructure and services where feasible. The Naval Medicine—NMCI shared vision is to create a single Navy and Marine Corps Enterprise-wide Network that provides seamless access to and exchange of comprehensive healthcare information throughout Naval Medicine and the Military Health System Community of Interest.

The Naval Medicine—NMCI transition strategy incorporates four parallel endeavors. They are:

- 1. Transition of BUMED Headquarters into NMCI (800 Seats)
- 2. Transition of non-clinical Naval Medical Department Commands into NMCI (5,900 Seats)
- 3. Completion of a Composite Health Care System Computer-based Patient Record (CHCS II) NMCI Interoperability Beta Test at Naval Medical Center, Portsmouth, VA (72 Seats). The Military Health System's (MHS) largest, and most critical, network-centric information system, CHCS II forms the core of DOD's computer-based patient record initiative, and as such, is and will be broadly integrated across the enterprise at the center of the MHS healthcare delivery mission. The Beta Test will document infrastructure and network performance characteristics to include: Interoperability, Accessibility, Continuity of Business Operations, Quality of Service, Information Assurance, and Clinical Provider Productivity.
- 4. Transition of all clinical Navy Medical Department Commands into NMCI (38,300 seats).

Naval Medicine is partnering with Electronic Data Systems (EDS), Science Applications International Corporation (SAIC), and Booz-Allen & Hamilton (BAH) to complete the financial analysis of our transition endeavors. We expect positive economies in transitioning to NMCI, which include robust information security, email server consolidation, network operations center consolidation, and uniform seat management services across the Naval Medicine Enterprise.

MEDICAL RESEARCH

Naval Medicine also has a proud history of medical research successes from our laboratories both here in the United States as well as those located overseas. Our research achievements have been published in professional journals, received patents and have been sought by industry as partnering opportunities.

The quality and dedication of the Naval Medicine's biomedical research and development community was exemplified this year as Navy researchers were selected to receive prestigious awards for their work. CAPT Daniel Carucci, MC, USN, received the American Medical Association's Award for Excellence in Medical Research for his work on cutting edge DNA vaccines. His work could lead to the development of other DNA-based vaccines to battle a host of infectious diseases such as dengue, tuberculosis, and biological warfare threats. Considering the threat of biological terrorism, DNA vaccine-based technologies have been at the forefront of "agile" and non-traditional vaccine development efforts and have been termed "revolutionary". Instead of delivering the foreign material, DNA vaccines deliver the genetic code for that material directly to host cells. The host cells then take up the DNA and using host cellular machinery produce the foreign material. The host immune system then produces an immune response directed against that foreign material.

In the last year, Navy human clinical trials involving well over 300 volunteers have demonstrated that DNA vaccines are safe, well tolerated and are capable of generating humoral and cellular immune responses. DNA vaccines have been shown

to protect rodents, rabbits, chickens, cattle and monkeys against a variety of pathogens including viruses, bacteria, parasites and toxins (tetanus toxin). Moreover, recent studies have demonstrated that the potential of DNA vaccines can be further enhanced by improved vaccine formulations and delivery strategies such as non-DNA boosts (recombinant viruses, replicons, or exposure to the targeted pathogen itself). A multi-agency Agile Vaccine Task Force (AVTF) comprised of government (DOD, FDA, NIH), academic and industry representatives is being established to expedite research of the Navy Agile Vaccine.

Naval Medicine is developing new strategies for the treatment radiation illness. Adult Stem Cell Research is making great strides in addressing the medical needs of patients with radiation illness. The Anthrax attack on the Congress and others reminded us of the threat of weapons of mass destruction, to include ionizing radiation. Radiation exposure results in immune system suppression and bone marrow loss. Currently, a bone marrow transplant is the only life saving procedure available. Unfortunately, harvesting bone marrow is an expensive and limited process, requiring an available pool of donors. In the past year, Naval Medicine researchers have developed and published a reproducible method to generate bone marrow stem cells in vitro after exposure to high dose radiation, such that these stem cells could be transplanted back into the individual, thereby providing life-saving bone marrow and immune system recovery.

In this same line of research, Naval Medicine is developing new strategies for the treatment of combat injuries. We are developing new therapies to “educate” the immune system to accept a transplanted organ—even mismatched organs. This field of research has demonstrated that new immune therapies can be applied to “programming stem cells” and growing bone marrow stem cells in the laboratory. Therapies under development have obvious multiple use potential for combat casualties and for cancer and genetic disease.

Other achievements during this last year include further development of hand-held assays to identify biological warfare agents. During the 2001 anthrax attacks, Navy scientists analyzed over 15,000 samples for the presence of biological warfare (BW) agents. These hand-held detection devices were used in late 2001 to clear Senate, House and Supreme Court Office Buildings and contributed significantly to maintaining the functions of our government. The hand-held assays that are used by the DOD were developed at Naval Medical Research Center (NMRC). Currently NMRC produces hand-held assays for the detection of 20 different biological warfare agents. These assays are supplied to the U.S. Secret Service, FBI, Navy Environmental Preventive Medicine Units, U.S. Marine Corp, as well as various other clients.

Naval Medicine’s overseas research laboratories are studying diseases at the very forefront of where our troops could be deployed during future contingencies. These laboratories are staffed with researchers who are developing new diagnostic tests, evaluating prevention and treatment strategies, and monitoring disease threats. One of the many successes from our three overseas labs is the use of new technology, which includes a Medical Data Surveillance System (MDSS). The goal of the MDSS is to provide enhanced medical threat detection through advanced analysis of routinely collected outpatient data in deployed situations. MDSS is part of the Joint Medical Operations-Telemedicine Advanced Concept Technology Demonstration (JMOT-ACTD) program. Interfacing with the shipboard SAMS database system, MDSS employs signal detection and reconstruction methods to provide early detection of changes, trends, shifts, outliers, and bursts in syndrome and disease groups (via ICD-9 parsing) thereby signaling an event and allowing for early medical/tactical intervention. MDSS also interfaces with CHCS and is operational at the Army’s 121st Evacuation Hospital in South Korea, and is being deployed at the hospital and clinics at Camp Pendleton. Currently, MDSS may have an opportunity to collaborate with other industry and service-related efforts for the purpose of developing homeland defense-capable systems. Homeland defense initiatives are currently being coordinated through the Defense Threat Reduction Agency.

Noise-Induced Hearing Loss (NIHL) is one of the most common military disabilities with over 353,116 new cases reported in 2003 despite aggressive hearing conservation programs in the military. Military related NIHL is very costly. When disability costs for tinnitus and aircraft accidents related to communication problems are included, costs for military related hearing loss may exceed \$1 billion annually. Additionally, NIHL may degrade warfighter performance, mission accomplishment, and survivability. Today’s hearing conservation programs are based on fit and frequency dependent personal hearing protection devices (HPDs), engineering solutions, and noise avoidance; which are helpful but do not provide adequate protection around today’s noisier weapons systems. Accordingly the Navy has taken the lead in research to elucidate the mechanisms underlying NIHL. The results have lead

to the development of a safe oral nutritional supplement that has proven in laboratory settings to enhance resistance and healing to inner ear damage from noise. The efficacy of these nutritional supplements to prevent and treat NIHL is being studied in two joint military-civilian clinical trials lead by the Naval Medical Center, San Diego. If these trials succeed, we believe that a proven and effective treatment and prevention strategy, when combined with hearing conservation measures, could be dramatically reduced. A conservative estimate based on the robustness of the biological response in preclinical data suggests that a 50 percent reduction in hearing related injury is possible.

NAVAL MEDICINE AND SEA POWER 21

Naval Medicine is totally committed to the Chief of Naval Operations' transformational vision for projecting decisive joint capabilities from the sea—Sea Power 21. Examples of transformation abound throughout Naval Medicine where hard work identifying efficiencies and cutting costs have resulted in opportunities to support recapitalization. These include the ongoing efforts to reduce variation in costs across our MTFs as well as among clinics within MTFs. Optimization efforts focusing on maximizing the fixed capabilities of our facilities to the greatest extent possible are active, ongoing, and will continue into the future. Transformation is not limited to shore facilities and includes remaking our fleet assets such as the reconfiguration of forward medical assets from cold war era fleet hospitals to the smaller, more agile and more flexible platforms and units described earlier in my statement.

We are right sizing our active military force to the best mix of active, and civilian or contract personnel to bring the right capability to bear at the right time, and in alignment with the CNO's vision. We have reconfigured and integrated our Naval Reserve components to shape missions along with the active component, creating one force, assuring the very best use of the skills and talent our Reserve medical personnel bring to the mission. Further, Naval Medicine is committed to the growth and development of our people through investments in leadership that are directly in support of Sea Warrior by ensuring the right skills are in the right place at the right time.

Naval Medicine will continue to seek aggressively opportunities to pursue efficiencies that improve our primary mission of Force Health Protection and do our part to return resources for recapitalization of the Navy. We are affecting positive change throughout Naval Medicine, embracing and implementing the CNO's vision for the Navy, and I am confident that we are on the correct course for the challenges ahead.

CONCLUSION

Naval Medicine has been successful in accomplishing its mission over the years, and with your support, the military benefit has become one of the most respected healthcare programs in the world. We know from Navy's quality of life surveys that among all enlisted personnel and female officers, the number one reason these service members stay Navy is the exceptional healthcare benefit.

You have allowed us to provide our service members, retirees and family members a benefit that is worthy of their service, and clearly articulates the thanks of a grateful nation for their selfless service. With your support, we have opportunities for continued success, both in the business of providing healthcare, and the mission to supporting deployed forces and protecting our citizens throughout the United States.

In just a few short months, I will leave this office, and will retire after serving more than 32 years in the United States Navy. I wish to thank this committee for its support to Naval Medicine, and to me during my time as the Navy's Surgeon General. It has been a privilege to serve.

Senator STEVENS. General Taylor, it is nice to welcome you back.

STATEMENT OF LIEUTENANT GENERAL GEORGE PEACH TAYLOR, JR., SURGEON GENERAL, UNITED STATES AIR FORCE

General TAYLOR. Thank you, Mr. Chairman. Mr. Chairman and members of the committee, it is a privilege and a pleasure to be here today.

OPERATION IRAQI FREEDOM

Much has happened since we met here 1 year ago when we had just embarked on Operation Iraqi Freedom. A year later we have found that most of our concepts were validated. Some require more work, but most importantly the men and women of the Air Force Medical Service have again served their country with phenomenal talent, capability, and dedication. The lessons we have learned in Afghanistan, Iraq, indeed, wherever we are deployed, and even at home have helped us to hone our force central capabilities, ensuring a fit and healthy force, preventing illness and injuries, providing care to casualties, and sustaining and enhancing human performance.

MEDICAL READINESS

We are doing many things to ensure our force is fit and healthy before they deploy. Our preventive health assessments and individual medical readiness program ensures that health requirements and screenings have been met before deployment. This program has been adopted DOD-wide and is clearly responsible, in great part, for the 4 percent non-battle disease injury rate in DOD that you have been hearing about, the lowest in history.

POST-DEPLOYMENT HEALTH ASSESSMENTS

I would add that our post-deployment health assessments, equally important, are going extremely well. Our Active and Reserve component personnel have returned for deployments and nearly 99 percent have completed these assessments with a provider. Our people are coming back in better health because of individual disease prevention efforts but also because of the incredible deployment health surveillance program that all three of us have fielded. From our preventive aerospace medicine teams to our biological augmentation teams, we are helping to protect the area of responsibility from biological and environmental threats. We are using amazing technology such as our rapid pathogen identification systems (RAPIDS) which can determine the identity of pathogens in only a few hours. In the future, we hope to reduce this time even further through new, more advanced, indeed breakthrough genome-based technologies.

We have shared with you over the past few years our success in our light, lean, and mobile expeditionary medical system, known as EMEDS, but before we left for Iraq a year ago, we realized EMEDS did not have the protection we needed for chemical weapons. Within 30 days, Air Force medics developed a mature nuclear, biological and chemical (NBC) treatment module that could care for 100 radiologic, biologic, or chemical casualties. This is the level of ingenuity we have in our armed forces in all the services.

Your staff had the opportunity to view other technical marvels that are saving lives in the battlefield like the laptop size ultrasound machine, the ventilator that is the size of a football, a complete surgical package that fits in a backpack.

AEROMEDICAL EVACUATION

Aeromedical evacuation continues to be the lynch pin in our deployed medical operations. In addition to the critical care air transport teams you have heard about, we continue to field patient support pallets that allow us to use all available airlift and have added an aeromedical evacuation center to our air operations center to allow smooth integration with all DOD and, indeed, allied air operations in the theater.

From our perspective, the story of Private Jessica Lynch's rescue is an excellent example of the near seamless integration of the Air Force and our sister services. Following her rescue from an Iraqi hospital, Army medics, Air Force aeromedical evacuation troops, and special operations members transported her thousands of miles using three different aircraft and provided care in the air during her entire journey until she reached the safety of an Army hospital in Landstuhl, Germany, all accomplished in less than 15 hours. And this same scenario has repeatedly saved the lives of many other, less famous, but equally courageous young heroes.

Together the three of us partner closely to see that health care from the foxhole to home station is seamless. Indeed, I would tell you that this is a case study in the application of the joint capabilities, the best of the Army, Navy, and Air Force, to meet our Nation's needs.

COMBAT MEDICINE

Combat medicine is an ever-evolving art, and we cannot afford to coast for one minute on these successes. We recognize the critical value of developing new and better technology and enhancing human performance. Our human performance initiatives cross the spectrum from battling combat fatigue, to enhancing vision through corneal refractive surgery, to creating systems that will protect our pilots and our aircraft sensors from laser damage. While all these exciting high-tech programs are taking place, we are also quietly caring for our members and their families back home.

TRICARE

We anticipate the promising next generation TRICARE contracts to be a smarter way of doing business as revised financing methodology is fielded throughout all U.S. based military health treatment facilities. We are working hard with health affairs and the Congress to ensure that our incentives and our accountability are properly aligned for this increased and more flexible local responsibility for patient care funds. While we prepare for next generation TRICARE and for the enhancement of relationships with the civilian community and our partners in the Department of Veterans Affairs, we are always aware of the direct connection between this peacetime health care and the readiness of our troops.

The Air Force Medical Service has answered the call and will continue to do so. We will work to resolve tough issues from the fiscal hurdles to challenges of recruiting and retention. And wherever we go to perform our mission, you can see the results of your support to the troops, and we thank you for this dedication.

PREPARED STATEMENT

Finally, as the last witness and anecdotally, scarily I am going to be moving to the right-hand side of the table here this next year, I would like to take a moment to focus on my two comrades in arms. Jim Peake and Mike Cowan are two of the finest Americans I have had the pleasure to meet. There are really no finer examples of the American medic than these two gentlemen to my right. They dedicated the heart of their adult lives to the men and women in harm's way. We will miss them, and our Air Force wishes them godspeed and fair tail winds.

Thank you, Mr. Chairman.

[The statement follows:]

PREPARED STATEMENT OF LIEUTENANT GENERAL (DR.) GEORGE PEACH TAYLOR, JR.

Mister Chairman and members of the Committee, it is a pleasure to be here. When we last met, I described how our transformation efforts were saving lives during combat operations in support of the war against terrorism. The week before my testimony, we had just begun combat operations in Iraq. Now, a year later, major combat in Iraq has ended, but the mission and danger continue. Although many of my comments here today address the Air Force Medical Service's contribution to combat operations, I assure you that the care we provide to families and retirees is still of great importance. It continues to improve even as we are engaged in operations around the globe.

And, of course, we truly are engaged around the globe. Like our sister services, every step in our transformation is to advance our ability to operate worldwide with lightning speed. This is reflected in the Air Force's six Concepts of Operation, or CONOPS. CONOPS are a statement of our desired end result, or effect, that the Air Force brings to the battle. The first three are Global Mobility, Global Strike, and Global Response. The others are Nuclear Response, Homeland Security and finally Space and Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance. That's a mouthful, so we refer to it as Space-C⁴ISR. The medics provide fundamental support to all six.

Global Mobility, Strike, and Response CONOPS require the AFMS to provide medical care anywhere at any time to support humanitarian and warfighting operations. This demands that our medics travel fast and far, so they pack light, very light. Some of our Expeditionary Medical System medics travel with just a 70-pound pack. One small 5-person team carries enough to perform 10 life-saving surgeries in the field under battle conditions. And our aeromedical evacuation capabilities permit us to quickly fly into hostile environments, pluck injured members from the field, and fly out, often providing critical care in flight.

The Air Force's Nuclear Response CONOPS provides a deterrent umbrella under which our conventional forces operate. Medics support this CONOP by ensuring that commanders can rely on the medical and psychological health of the human element of the nuclear force. We also develop plans for the care of casualties and refugees in a radiological event of a terrorist or national origin. We assess health hazards and provide recommendations to protect responding personnel or our combatants within any hazardous zone.

The Homeland Security CONOPS recognizes that if someone attacks our homeland again, Air Force medical personal will be an invaluable asset bringing a wealth of manpower and expertise to the crisis. In such a contingency, our base clinics and hospitals become part of the local health care disaster network. They offer their ability to help local authorities detect and identify chemical, biological, and nuclear weapons, and we aid in the treatment of those exposed to them.

The final CONOPS, Space-C⁴ISR, serves to integrate the other five. Simply put, it is the network of intelligence, sensors, satellites, and communications that allow us to orchestrate our forces worldwide. Every unit and every function of the Air Force is tied into this capability. Each contributes information to it and uses information from it. Air Force medics use this capability to monitor health threats worldwide, to coordinate care from combat to CONUS, and to maintain visibility of our patients no matter where they are within the joint medical system.

We have now been in Iraq over a year. The AFMS has used this time to review its performance there through a Capabilities Review and Risk Assessment—a process that drives a hard look at our performance—from this process we learn what

we did right; and what we can do better. These lessons learned help to hone our four central AFMS capabilities of: Ensuring a fit and healthy force; preventing illness and injuries; providing care to casualties; and enhancing human performance.

Ensuring a Fit and Healthy Force

The first capability we provide the Air Force is that of ensuring a fit and healthy force. Unhealthy troops cannot deploy. A commander who is short of troops cannot fight; cannot win. We keep troops healthy so commanders can do both.

While providing a fit and healthy force is ultimately every commander's responsibility, the AFMS plays a critical role in defining what is fit, what is healthy . . . how do we get them that way, how do we keep them that way.

One recent step is the implementation of the Air Force Chief of Staff's revised fitness program—a significant change in fitness standards and how we monitor them. The program is now based upon push-ups, sit-ups, and a mile-and-a-half run. To this we add body composition measurements and a strong focus on unit exercise programs. This model includes the Guard and Reserve who must meet the same standards as their active duty counterparts.

The program is only a couple months old, but we know airmen accept and appreciate it. They must like it—I find it much harder lately to find an open weight bench at the gym, so I know first-hand that our troops are enthused about the program.

Fitness results will be available on the Air Force's secure web to commanders and leadership, allowing them to know in near real-time what percentage of our troops are fit to fight.

Of course, our dedication to health goes far beyond a yearly fitness test. We employ a life-cycle approach to care. We surround troops with continual health monitoring and evaluations from the day recruits first put on an Air Force uniform, during every visit to the in-garrison or expeditionary clinic or hospital throughout their career, and especially during their transition to veteran status. We honor our commitment to our retirees; we are there.

An important tool of ensuring a fit and healthy force has been our Preventive Health Assessment program. It ensures that at least once a year, every Airman has an assessment for changes in his or her health and for needed health screening or immunizations, and has the opportunity for a medical exam, if needed.

Additionally, preventive health assessments are provided before members deploy and immediately upon their return. Such screenings were an interest item for both the DOD and Congress last year. We are pleased to report our success. For the 61,000 Air Force personnel deployed from March 1 through December 31, 2003, 99 percent completed their post-deployment health assessment—which included a face-to-face appointment with a medic and 97 percent had serum samples collected for submission to DOD repository.

The medical information from all screenings and appointments is captured in an innovative information system called the Preventive Health Assessment and Individual Medical Readiness program, or PIMR. PIMR data, like that of our new fitness program, are available on the web to Air Force leadership worldwide.

The next version of the Composite Health Care System—CHCS II—is another computer information system that will provide significant benefit to the AFMS as well as the entire DOD health care. Even in its current decade-old form CHCS is an amazing system. It captures every visit, prescription, lab result, and procedure provided to every patient.

We first deployed CHCS in the late 1980s when computer screens were black and white and a mouse on your desk was cause for alarm. The upgraded CHCS II will have the look and feel of a web site. It will also be faster and easier to learn. More importantly, CHCS II will interface with the numerous other programs that have come on line since it was first introduced. CHCS II marches us down the path toward an electronic medical record that will solve many problems for us, including that of lost or fragmented medical records. Additionally, CHCS II will be deployable, so it will be the same program used in the field and at home.

CHCS II, like its predecessor, will be deployed worldwide, accessed by thousands of users simultaneously, and contain the patient records of up to 8.8 million eligible beneficiaries. It is the largest health information system in the world—and an invaluable tool in keeping our troops—and their families—healthy.

Once we have assured that only fit healthy troops are sent to the area of operations, we take great effort to ensure they stay that way. This falls to our next capability, that of preventing casualties.

Preventing Casualties

We are experiencing unparalleled success in the prevention of illness and injury during Operation Iraqi Freedom. A telling example of this success is our low Disease

Non-Battle Injury Rate—we call it the “D-N-B-I rate” for short. The DNBI rate describes the percentage of troops who become sick or hurt from things other than enemy activity; things like dental problems, car accidents, the flu, broken bones, etcetera.

Historically, more troops are removed from battle because of accidents or illnesses than from enemy fire. In Operation Desert Storm, the DNBI rate was about 6 percent. During the current Iraqi conflict, only 4 percent (DOD rate) of illnesses and injuries were non-combat related. This is the lowest DNBI rate in history. We seek ways to make it lower yet. One of our doctors in Iraq jokingly suggested that if we were to cancel intramural basketball games in theater we could eliminate many sprained ankles and drop that DNBI rate another percent. The important point is that we continue to address all the challenges—including sports injuries—that reduce our combatant capabilities.

Much credit for the low DNBI goes to the preventive health assessments and pre-deployment screenings I mentioned. These allow us to identify personnel with pre-existing or uncontrolled medical problems; conditions that would worsen under the stress of deployment. These folks—if allowed to deploy—are a huge source of DNBI. By pulling them out of the deployment line and caring for them back home in-garrison, we not only decrease the DNBI rate, we also ensure these members get the health care they need to make them worldwide-qualified in the future.

The Deployment Health Surveillance program is another critical piece of preventing casualties. Before airmen arrive in large numbers to establish a base in foreign territory, a special team of medics—called the Preventive Aerospace Medicine, or PAM team—has already been there. They have surveyed the environment for biological and environmental threats, and have stood up surveillance equipment to detect and identify such threats.

When it comes to total “battlespace awareness,” PAMs and another EMEDS team called the Biological Augmentation Team, or BAT team, are invaluable. These teams take on the same importance as the radar, intelligence, and security specialists whose mission it is to detect, identify, and deter enemy attacks. In the same manner that a radar operator surveys the skies for threats, our medics survey the environment with equipment to detect chemical, biological, radiological or nuclear—CBRN—threats. In combat, speed counts. That radar operator must detect the presence of an airborne object and then quickly identify it—friend or foe. The sooner that operator can do both, the faster we can react—the safer our people are. In the same way, our teams and their equipment act quickly to detect, identify, and counter CBRN threats.

For example, it used to take up to a week to detect and confirm the presence of dangerous biological and chemical weapons—too long. Imagine a biological agent loose in one of our bases in Iraq for a week before we were able to identify and contain it. Even the most conservative estimates predict that 30 percent of our troops would become seriously ill or worse.

With RAPIDS technology, we eliminate the deadly delay between the time a pathogen is released and when we become aware of its presence. The aptly named RAPIDS stands for the Rapid Pathogen Identification Systems; a fielded and proven system that can determine the identity of pathogens within a few hours; much better than 4 to 7 days it used to take. Using new genome-based technologies, we hope to reduce the time even further.

Another tool in the Air Force Medical Service toolbox is the Global Expeditionary Medical System, or GEMS. This rugged, laptop-based system serves as a deployable, electronic medical record for every patient encounter in the combat zone. To date, it has logged nearly 107,000 patient encounters in Afghanistan and Iraq. But it does more than that. It also tracks chemical, physical, and radiological hazards and even tracks the results of food inspections and living conditions in the field. GEMS provides commanders a theater-wide overview of the health of their forces. Its sophisticated epidemiology tracking features allow it to identify potential disease outbreaks very early in the courts of outbreaks or a chemical or biological attack.

I have described systems and processes we have in place that ensure oversight of our airmen’s health before they deploy, while they are in the field and even after they return. But we must remember that combat is inherently dangerous. In spite of our best efforts to prevent it, some of our troops will fall ill, and some will be wounded. Thus the critical need for our third capability; that of restoring the health of the sick or injured—casualty care.

Casualty Care

We have completed the conversion of our large-footprint field medical facilities into small, rapidly deployable Expeditionary Medical System—or EMEDS—units. Our performance in Iraq validates that the EMEDS concept works. It saves lives.

These units can be found throughout the area of operations. They often provide care from the point of injury, at tented facilities removed from the front, and during aeromedical evacuations as they transport the patient from the theater entirely. When the U.N. Building in Baghdad was car bombed last August, killing 20, EMEDS surgeons and their staff were only minutes away, and cared for numerous injuries on the spot.

Shortly before the start of combat operations in Iraq we added a new capability to EMEDS; hoping against—but preparing for—Iraq's potential use of chemical weapons, we created EMEDS Supplemental NBC Treatment Modules—or NBC pallets, as our troops call them. Each module contains 25 ventilators and medical supplies to care for 100 radiological, biological, or chemical casualties. I find it extraordinary that it took only 30 days for these packages to mature from the concept stage until the first pallet was loaded onto an aircraft for delivery.

While NBC pallets provide the tools to treat NBC casualties, the EMEDS' hardened tents and infrastructure offer a protective shelter in which our medics can render that care. Each can be equipped with special liners and air handling equipment that over-pressurizes the tents' interiors. Clean, filtered air is pushed in; contaminated air is kept out. Protected water distribution systems work the same way, ensuring a safe, potable water supply even in contaminated environments.

I continue to be impressed with the enabling technologies that permit the development of things like Push Pallets or advanced air and water-handling systems. During operations in Iraq we have relied on these and other technical marvels, like a lap-top sized ultrasound machine, a ventilator unit the size of a football, and a chemistry analyzer that—during Desert Storm—required its own tent; now it fits in the palm of your hand. Our people are saving lives with these technologies around the globe as we speak. There are EMEDS operating in Iraq and 11 other countries in support of Air Force operations.

Operation Iraqi Freedom also validated our new aeromedical evacuation concept of operations. A significant advancement in this mission is our ability to take advantage of back-haul aircraft, which has tremendously accelerated the aeromedical evacuation process. This has eliminated the need for patients to wait days for a designated C-9 or C-141 aeromedical evacuation mission to pass through their area. Patient Support Pallets—or PSPs—make it far easier to turn any Air Force mobility aircraft into an aeromedical evacuation platform. PSPs are a collection of specially packed medical equipment that can be installed into cargo and transport aircraft within minutes. The plane that just landed to deliver weapons is quickly converted to carry wounded patients.

Let me share with you an example of PSPs work. In Baghdad, a 5-year-old, deathly ill Iraqi girl was brought to one of our allied locations. She was scheduled to fly to Greece for medical treatment. Her condition was so poor that upon arrival at the clinic she was placed on a ventilator. Doctors determined she was too ill to survive and she was removed from the flight. One of our nearby medics heard of the situation. He determined that leaving that little girl behind to die was simply not an option. He, and other members of his Aeromedical Evacuation team, grabbed one of our PSPs—we have 41 of them strategically placed around the globe—and within an hour had converted a section of the Greek aircraft into a small critical care bay. Their precious cargo was loaded—with her ventilator—and she was flown to Greece to receive care. We are the only country in the world that can do this on a regular and sustained basis for our military personnel.

This demonstrates that PSPs allow us the flexibility to convert not only our own aircraft into AE platforms, we can also take advantage of our allies' aircraft. This dramatically increases the availability of aeromedical evacuation opportunities to our troops. It's like one of our medics told me: "If it flies, and we have elbow room, we can do our thing. Our thing is saving lives."

The medic I spoke of is a member of one of our Critical Care Air Transport Teams. We call them CCATS. These CCAT teams are comprised of a physician, a nurse, and a cardiopulmonary technician. They are specially trained to work side-by-side in the air with our aeromedical evacuation crews to provide critical care under the extremely difficult environment of flight.

Recently, one of our aeromedical evacuation crews augmented by a CCAT team flew into Baghdad on a C-130, under black-out conditions and while taking fire to retrieve three severely wounded soldiers. These troops, too, needed ventilators to help them breathe. They were quickly loaded and even before the aircraft could take off again, our CCAT teams were providing life-saving care to their patients. While in the air, the aircraft was diverted to Talil where U.S. forces had come under attack. Two more men were critically wounded there and needed immediate aeromedical evacuation. Both of these troops also required ventilators.

All five soldiers were flown that night to an Army medical facility in Kuwait. The Air Force medics on that mission are proud of their accomplishment—never before, or since, has there been a combat AE mission in which a team cared for five patients on ventilators in one aircraft. I'm proud of them, too. Without the AE concept and the skills our medics brought to the theater, each of those five soldiers would have succumbed to their injuries.

Another enhancement to our aeromedical evacuation capabilities is the placement of an AE cell in the Air Operations Center. This permits the smooth integration of our actions with all other DOD or allied air operations in the theater. The story of Private Jessica Lynch's rescue provides a famous example of how all these assets—the AE cell, aeromedical evacuation crews and CCATS, patient support pallets, and the use of backhaul aircraft—all come together in a successful operation. Following her retrieval from the Iraqi hospital, Army medics, Air Force Aeromedical Evacuation troops, and Special Operations members transported her thousands of miles, used three different aircraft, and provided care in the air during her entire journey until she reached the safety of an Army hospital in Landstuhl, Germany. All this was accomplished in less than 15 hours.

Like so many of our missions, Jessica Lynch's AE mission could not have been accomplished without the near-seamless integration of our sister services. Medical and AE operations serve as the perfect example of the joint application military capabilities.

I also must give praise to the backbone of our AE capability, our Guard and Reserve. Fully 87 percent of our AE structure is Air Reserve Component members. They have assisted their active duty counterparts in transporting over 13,700 patients from OEF and OIF, of which about 2,300 were urgent or priority missions.

As I hope I have made clear, EMEDS capabilities span the geography of operations from the farthest forward immediate surgical capability, throughout the area of operations, to include aeromedical evacuation to facilities around the globe. EMEDS has vastly improved how we care for casualties, but we still face challenges. Perhaps one of the most significant of which is caring for victims of weapons of mass destruction.

Although this country has recently seen two bio-chem attacks—the anthrax attack two years ago, and the fortunately unsuccessful ricin scare of January—we have yet to experience a large scale Weapons of Mass Destruction attack. Therefore, we can never know just how successful our response to such an attack will be. I guarantee our response would be superior to any other nation's on earth—but we always strive to expand the envelope of our nation's capability.

To enhance our response even more, AFMS personnel are implementing Code Silver. Code Silver is a program that offers tabletop exercises emphasizing biological and chemical warfare responses by our medical facilities. We will focus on how our facilities interact and relate to the rest of the base and with the local civilian community. Forty Air Force medical facilities and the communities surrounding them will participate in Code Silver exercises in 2004.

The fourth and critical capability we bring to the warfighter is the enhancement of human performance.

Enhance Human Performance

As the size of our military decreases and the capability of each individual platform increases, the relative importance of every individual also increases. Today's airman receives superior training so that they can maintain and operate the most sophisticated equipment and weapons systems in the world. But the stress and exhaustion of combat operations leads to fatigue. Fatigue dramatically erodes the Airman's ability to react quickly and think clearly. It eliminates the intellectual and technological advantages we bring to the battle.

Commonly used methods of combating fatigue involve careful studying of our airmen's mission schedules, their diets, sleep patterns, even their biorhythms, to mitigate the impact of drowsiness upon their missions. These are all important to maintaining wakefulness, because at the very least, fatigue degrades mission performance. At the very worst, it kills. In battle, fatigue is a deadly enemy.

We also find we can enhance human performance by enhancing vision. We do so through corneal refractive surgeries—commonly known as PRK and LASIK. These procedures are provided to non-flying and non-special duty airmen. We began offering them after an exhaustive literature review and extensive expert conference conclusions revealed that the operations are, indeed, safe, effective, and potentially cost-saving. In the near future these procedures will be offered to some aviators and special duty members. We continue to study corneal refractive surgeries to see what the effects of time or the stresses of the cockpit—like pressure changes and jar-

ring—have on our flyer’s eyes. The results thus far are highly encouraging. One thing is for sure, they are very highly desired by our troops.

Good eyesight is, of course, critical to our forces. An enemy who can temporarily or permanently blind one of our troops will have succeeded in removing that Airman from combat. One method for inflicting such an injury is through directed energy, or lasers. In the little-more-than 40 years since the laser’s invention, it has grown from something found only in a few science labs and an occasional James Bond movie, to a technology so common that one can find lasers in every supermarket scanner, in DVD players; and I have even seen them sold as cat toys. Lasers are also weapons—and are capable of injuring or destroying eyesight. The proliferation of lasers poses a growing threat to our pilots and troops.

In response to this challenge, we have created protective eyewear and faceplates that absorb and deflect laser light. The devices save our pilots from damaging and potentially permanent eye damage from these weapons. We continue to study ways to detect the presence of lasers in battlespace and methods for protecting our men and women against them.

Another challenge we encounter in enhancing human performance is our need for ever-increasing amounts of information and communication; especially that which flows between our EMEDS troops on the ground, our aeromedical evacuation crews in the air, and our medics in permanent facilities who receive patients from the area of operations. Our success at converting any transiting mobility aircraft into an aeromedical platform outpaced our ability to create the information systems to track the patients using them. It is difficult to keep oversight of the location and condition of thousands of patients on a worldwide scale.

Fortunately, the U.S. Transportation Command Regulating and Command & Control Evacuation System or TRAC²ES [Tray-suhs] is helping us overcome that challenge. TRAC²ES is a DOD information system that allows us to track the location and status of patients from the moment they enter the aeromedical evacuation system in the theater of operations, as they fly to a higher level of care, until they are safely back in a garrison medical facility.

I have described some of what we learned during current operations in Iraq, but before closing, I would like to mention a few our successes here on the home front.

THE HOME FRONT

We are always developing avenues to provide great and cost-effective care. One way to do so is to seek out partners who share our dedication to the care of patients and can join us in a better way of doing business. We continue to strengthen just such a relationship with our partners at the Department of Veterans Affairs. Of the seven current Joint Ventures between the DOD and VA, four of them are at Air Force medical facilities: Elmendorf in Alaska, Travis in California, Kirtland in New Mexico, and Nellis in Nevada.

These are not the only locations in which the VA and DOD work together to provide care. We are pursuing several additional Joint Venture locations and already have nearly 140 sharing agreements between the Air Force and VA throughout the United States. These are great examples of partnering with the VA.

We are also developing the exciting possibility of expanding the traditional concept of Joint Ventures to other major healthcare institutions. For example, we believe that a unique three-way joint venture between the DOD, VA and the University of Colorado Hospital will be a cost-efficient way of caring for all our beneficiaries. This concept is receiving not only strong support from DOD leadership and local VA officials, but also all of the Colorado Veterans organizations and the Colorado state congressional leadership.

NEXT GENERATION TRICARE CONTRACTS

We are passionate about our mission and confident of continued success, yet there are some uncertainties in the future that warrant mention. As you know, the DOD is in the process of fielding new contracts to replace our original TRICARE contracts. This transition is the focus of a great deal of management attention. Our ability to smoothly change contractors and governance will be closely watched by our stakeholders. Not only will there be just three TRICARE regions, revised financing will be expanded nationwide.

This is a methodology to place the entire costs of a TRICARE enrollee’s care in the hands of the local Medical Group Commander. She pays the private sector care bills as well being responsible for the direct care system—that care we provide to our enrollees in our Air Force clinics and hospitals. Revised financing has proven to be an effective tool in those regions where it is currently being used. This is an important advance, leveraging what we’ve learned in allowing the Commander to

select the most effective and most efficient location for health care. So, the dollars allocated to the direct care system are critical, but just as critical are the dollars allocated for revised financing. With this in mind, two-way flexibility between the private sector care and direct care accounts is necessary for revised financing to function successfully. The Air Force appreciates the congressional intent to protect direct care funding, but we recommend that the Fiscal Year 2005 Defense Appropriations Act language remove the separate appropriation for Private Sector Care to allow the flexibility to move funds to wherever care is delivered without a Prior Approval reprogramming.

BUDGET

For fiscal year 2004, the Congress's budget adequately funds our direct care system. However, we do have challenges with the private sector care budget—the health benefits purchased from civilian providers for our TRICARE beneficiaries. The TRICARE Management Activity (TMA), not the Services, manages all of these funds to include those for Revised Financing.

Two issues will pose significant fiscal challenges as we try to estimate what our private sector care costs will be.

The first issue is the increased use of TRICARE. TRICARE offers a very comprehensive benefit. With civilian healthcare plans raising co-pays and cutting back on benefits, more retirees are dropping their civilian healthcare and are relying exclusively on TRICARE. As more people opt for our health care program, costs for the entire TRICARE benefit rise. Correctly forecasting this cost is crucially important and placed pressure on the Department to handle these increases.

In addition to the enhanced TRICARE benefits the Department of Defense offered to activated Reserve Component members and their families during fiscal year 2003, the National Defense Authorization Act of Fiscal Year 2004 included even more new benefits. Because the new reserve health program is temporary, it offers us the ability to assess the impact of these benefits after the trial period. We will review the effects of these programs on reservists and their families as they transition to and from active duty and look at the overall effect on retention and readiness. We have concerns that health care benefits will be enhanced permanently before a full assessment of the impact can be completed, as well as concerns over the potential cost of new entitlements for reservists who have not been activated.

Consideration must also be given to the impact on the active duty force if similar health care benefits are offered to reservists who are not activated. OMB, DOD and CBO are working together to develop a model and a resulting five-year cost estimate to price the proposal to expand TRICARE health benefits for all reservists without regard to employment, medical coverage, or mobilization status as proposed in the Reserve and Guard Recruitment and Retention legislation. Preliminary results indicate that this could range from \$6 billion to \$14 billion over five years. Final scoring of this proposal should be completed by the end of March.

The influx of retirees and their families and of increased Guard and Reserve beneficiaries have greatly increased private sector care costs, which DOD will meet with internal reprogramming actions.

These bills are a must-pay, and they affect far more than our ability to provide the right care at the right place in the most efficient manner. Care for our military families is not just a medical issue—readiness is inseparable from family health. It is unmeasurable, but undeniable, that an Airman's physical and mental fitness to deploy is tied to the well-being of his or her family. We must provide our troops piece-of-mind that in their absence their loved ones will have their social, mental, and health care needs met.

A final challenge we encounter in providing care is that of the recruitment and retention of our active duty and reserve component medical professionals, especially physicians, dentists and nurses. The civilian health care environment offers significantly more attractive financial incentives than the Air Force, and we appreciate your support of recruitment and retention bonuses, special pay programs, and critical tools such as the Health Professions Scholarship Program and the Health Professions Loan Repayment Program. These are vital to our ability to attract qualified professionals and keep them in the Air Force.

SUMMARY

No other military in the world has the expertise, willingness to devote the resources, or the capabilities of the United States when it comes to caring for troops and their families, in times of war or in peace.

One of our medics—a surgeon—just returned from four months in Baghdad. He was asked, "What one word sums up your experiences there?" He said,

“Satisfied . . . I was caring for people who put their lives on the line for this country. I know that I made a difference. That is satisfying.”

It truly is satisfying to make a difference. We do. And we are proud to bring the special skill of Air Force medics to the service of our warriors—both present and past—and to their families. I thank you for your continued support of our medical service and our Air Force. We are proud to make a difference, and we are anxious to answer the call again.

Senator STEVENS. That was very generous, General, and deserved. Of course, Senator Inouye and I hate to see such young men retire.

I do not expect it right now. There is no rush, but when this pace slows down, I would like the committee to have sort of a flow chart on how you decided to disperse the wounded from Afghanistan and Iraq. We have medical facilities in Europe. We have them in Tripler. We have them in Alaska. We have them here. And I wonder if we developed a plan to utilize the full scope of our facilities, given the air transport that is available today and its worldwide capabilities. But no rush, just sort of a long-range study to see what we did and see if there is some way we might help you to do it better for the interest of the people involved.

I have the impression that the worst cases have come to Washington. General, is that right? Have the worst cases come to Bethesda and Walter Reed?

General PEAKE. Sir, initially that was absolutely the case. Now as our units are back and the soldiers are flown through, we regulate them to wherever they need. If it is burn treatment, they will go to Brook. If the care is available and they live near or at Fort Hood, they will go to Fort Hood. It just depends on the level of the severity of their injuries. Any of our medical centers really can take care of fairly sophisticated injuries.

What we did was concentrate our amputee care at Walter Reed because we wanted to have the absolute best. It really started with Afghanistan, which was the most heavily mined area in the world, and we therefore anticipated the potential for having amputees. So we married up with the Veterans Administration (VA) and all the smart people that we could find and focused that as an area of a center of excellence.

Senator STEVENS. Well, it is my impression that because of body armor and better helmets, we are having more real serious injury to the limbs of our service men and women. Is that observation correct?

General PEAKE. Sir, I think that is correct. Really as the article talked about yesterday that Senator Leahy mentioned, what we are seeing are folks with bad extremity injuries and head and neck injuries who otherwise would not have made it to us because their thorax would have been injured as well. Now they are making it through to the definitive care for their amputees.

Senator STEVENS. Has the surge to Bethesda and Walter Reed been such that it has required reallocation of funds?

General PEAKE. Sir, we have put a lot of money into the amputee center specifically to get that ginned up. This c-leg that was referred to can cost anywhere from \$80,000 to \$100,000 for a single limb, but that is what we are doing. It is the right thing to do and we will continue to do that. Truly we have been augmented with GWOT funds, global war on terrorism funds, out of the supple-

mental last year because these are operational issues not programmed issues. In fact, I am anticipating getting another \$244 million this year from somewhere in DOD to be able to—because that is what we are spending—prosecute the medical aspects of the global war on terrorism.

Senator STEVENS. Are the facilities that we were able to put into Ballad modern enough and capable enough to take a substantial part of this surge?

General PEAKE. Sir, we have modular combat support hospitals in Ballad, in Baghdad. In Ballad, they are in basically deployable medical system (DEPMEDS) facilities. In Baghdad, we have moved them into one of Saddam Hussein's old hospitals. We have them in DEPMEDS facilities at Mosul and Tikrit, as well as what we have down in Kuwait. So we have created a system—

Senator STEVENS. I do not want to belabor this. Sometime I would like to pursue it and see what the schedule is and how that flow was from those facilities into more permanent treatment facilities and how quickly these people got back near their homes.

We had understood that the facilities in the Washington area have started to limit new beneficiaries. Are new enrollees now being turned away? I am not talking about people coming back from the war zone, just new enrollees of people who are eligible for treatment.

General PEAKE. Sir, we have limited enrollment in the military treatment facilities with capacity. What you want to be able to do is appropriately treat the people that you have enrolled and give them that care. They can still enroll in TRICARE within the civilian part, the contractor part of the managed care system under TRICARE Prime.

Senator STEVENS. These are primarily retirees.

General PEAKE. Yes, sir.

Senator STEVENS. Is that part of the problem of taking care of the increased surge from the war zones?

General PEAKE. No, sir. It is not part of that.

Senator STEVENS. It is a limitation of the facilities themselves to take on the new retirees?

General PEAKE. It is the facilities and the staffing and so forth.

Senator STEVENS. And TRICARE for Life.

General PEAKE. Right, sir.

We have an increase in unique users across our system. If you look at our retirees, just the retirees over and under 65, from 2000 to now, it is about a 60 percent increase in retirees of unique users.

Senator STEVENS. I will move on to my co-chairman, but this committee was critical of the number of hospitals that were closed in the last base closure round and urged that some of them be maintained as satellites for other military health facilities. Are you considering reopening any?

General PEAKE. Sir, our manpower came down 34.5 percent in the Army from 1989. So you have to be able to staff a hospital to run it. It is really the people not just the facilities.

Senator STEVENS. I will get into that later.

Senator Inouye.

Senator INOUE. Thank you.

NON-COMBAT INJURIES

General Taylor just reminded me of an article I read a few weeks ago that more men in the Revolutionary and Civil Wars died as a result of dysentery, more than bullets. What percentage of the personnel who are now being hospitalized are hospitalized for non-combatant injuries?

General TAYLOR. Do you know the percentage? The only number I can give you is the idea of the people that we moved through the aeromedical evacuation system. Of the 15,000 or so people we moved from the air evacuation system this last year, between 3,000 and 4,000 were for battle injuries. The rest were for disease non-battle injuries. That gives you some estimate. It is probably somewhere on the order of one-quarter to one-third are actually due to battle injuries. The rest are disease non-battle injury (DNBI) rates.

The interesting part, as General Peake said, is the chance of dying in theater is much less than historically we have ever had, and Jim probably has the statistics on that to tell you, if you are injured in battle, if you make it to a medic, what your chances of surviving are. Jim, do you want to add to that?

General PEAKE. Sir, our killed in action (KIA) rate is about 13 percent. If you look at the theater of operation in Iraq, it is what the KIA rate is, compared to about 20 percent as what we have run historically from a KIA rate.

But you are right, sir, about the importance of DNBI and our preventive medicine measures. We actively review that and pursue it. I will give you an example of having to do with eye injuries. Our chief in his rapid fielding initiative for our soldiers insisted that every soldier get the Wiley X protective glasses. I have had two e-mails from the field now talking about how our eye injury rates have dropped down. We had studied our injuries coming back and had 99 serious eye injuries just because of lack of ballistic protection for the eyes. That has changed dramatically and part of it is because we have got leaders like Pete Chiarelli as the 1st Cavalry (Cav) commander who said we will wear the eye protection. That is one of your checkpoints as you go out on patrol. So those kinds of things are important.

But if you think about the population we have got over there, it is 150,000 people, and so people get sick. People have routine injuries. There are motor vehicle accidents. When you burn the latrines, you have people that get burned in fires. Those kinds of things are part of what we are seeing and we wind up taking care of all of that as it comes back through our system.

Admiral COWAN. Sir, if I could add to that. We used to accept DNBI as sort of, well, that is just the way it is, and we do not anymore. So our efforts are very aggressively aimed at making it no more dangerous and no more likely to become sick or injured when deployed than if you were at home.

It does not just start when we deploy. Our attention to the health and the fitness to include the flexibility, endurance, social stability, family stability of each of our individuals to help them go be those sticky soldiers and sailors and airmen that will stay in the field and have the capability to do so. So that is very much the

thrust of force health protection, to drive those DNBI's down. Part of it is putting healthy people out there that are likely to survive.

Senator INOUE. Do we have enough research money to look into this matter?

Admiral COWAN. I would say that there are always more projects that could be done. I think the money that we have now has allowed us to focus on near to midterm research development and ultimately acquisition that gets to the issues that we know to be the most important. There are others out there that more resources would allow us to get to and probably concentric circles of greater research risk. So no absolute money would be enough or too much.

PROTECTIVE BODY ARMOR RESEARCH

Senator INOUE. I would like to follow up on the chairman's questioning. We have been advised that additional research is now being done to develop protective body armor for extremities and for the head. Can you give us any status report on that?

General PEAKE. Sir, I have had the program manager for the helmet project over in the office and married him up with our head and neck consultant so that we could evaluate the kinds of injuries that we are actually seeing with what he is projecting for the next generation of combat helmets. Already we have improved the helmet from what we had even in Desert Shield/Desert Storm with better protection inside and better ballistic protection from rounds. So we are marrying them up.

One of the discussion points is what kind of face protection that we could have because we have folks standing outside the hatches when they are on patrol as an example. So the medics are not the primary developers of the body armor, but we are actively collaborating.

The Armed Forces Institute of Pathology is analyzing the body armor that comes back to understand where the vulnerabilities are. We know already that the axilla is an area where it can be penetrated. It saves you from a front-on hit, but it can come through the side as an example. So they are looking at ways to modify and increase the protection for soldiers in that regard.

Admiral COWAN. Sir, we have a combat registry that was initiated by the Army—and all services use it now—that allows us to track, in a statistical way, patterns of wounding. For example, we are finding with improvised explosive devices that the Iraqis are using at the roadside, that our soldiers get blasts from above. A helmet does not help. They get eye injuries. So General Peake alluded to the glasses.

We are also finding now that the trunk and the thorax is protected. We are seeing lots of people with shoulder injuries. So now the researchers are looking into putting a protective pad on the shoulder. So the nature of the combat and the nature of the vehicles people are in matter, but now we can track that and be responsive like we could not in the past.

Senator INOUE. I realize that it is part of the policy of our Defense Department to make certain that every person in uniform carries his or her load. In the medical personnel, there are some who are extremely specialized and trained. For example, we have sent surgeons to Iraq who are some of the finest in the land when

it comes to knee, shoulder, or hip replacement. I do not suppose they have any hip replacement or knee replacement in Iraq. Why do we have to keep them there for 6 months?

General PEAKE. Sir, right now they are potentially there for 1 year for the Army, and what we are trying to do is have them there for 6 months. We have been rotating our reservists at 90 days and we think that that is going to allow them to stay in the Reserves. We are actively—as a matter of fact, I have got the program on my desk now to carry forward, and I have talked to some of the leadership in theater about being able to rotate our folks out. I could run down the list. Jack Chiles, who is the Deputy Commander at Baghdad, is one of our premier anesthesiologists. We have subspecialists over there because really that is why we have them in the Army is so that we can have the kind of quality forward deployed. But what we want to do is get them back so that they can maintain their skills and be used effectively and efficiently in the long run.

But it is an issue of being very, very busy as an Army and everybody counts for being able to go forward and take care of those soldiers. So I absolutely appreciate what you are saying. I know many of the folks that you are talking about personally and we intend to carry this forward for the active guys to rotate those specialties at 6 months. As I say, with the reservists we are sticking to the 90 days because we think that is what it is going to take to keep them in the Reserves.

Senator INOUE. My time has expired. I will wait until my turn comes up again.

Senator STEVENS. Senator Leahy, you are recognized for 5 minutes.

Senator LEAHY. Thank you, Mr. Chairman. I have watched these 5-minute clocks here for the last 20 minutes, but I will try to stay somewhat close to it.

General Peake, in one of your answers to the question about the increase in injuries based on the different type of fighting, are we seeing an increase in blindness, blinding injuries?

General PEAKE. Sir, we saw some very serious eye injuries and that is why we have put this focus on the eye protection. So we are seeing a drop-off now. We will analyze it to see if it has really made that huge a difference.

Senator LEAHY. Please do because I get episodic stories on that. We can replace an arm. We can replace a leg. And I do not say that in a cavalier fashion by any means. It is still a difficulty, but it is not as devastating by any means to a person continuing with their life as blindness is.

I heard your discussion of the—I have kind of watched that. We actually put together one of the newer, lighter helmets in Newport, Vermont. They are working around the clock. I have tried on the old helmet and the new one and there is a remarkable difference in the weight. They are both pretty heavy.

General PEAKE. Yes, sir.

Senator LEAHY. But it is a big difference.

I read that New York Times article on the incidence of post-traumatic stress disorder, this Coming Home article. It was troubling in the sense not that there is post-traumatic stress disorder. All three of you have had far more experience in this than I. You know

this happens in our soldiers, our sailors, our airmen, marines. Hundreds, if not thousands, of these people are seeing horrific things that they have never really been prepared for prior to going there, including men and women who see their own fellow Americans killed before their eyes.

But the article goes into the question, do we really have the things set in place to take care of them when they come back here? It said that a number of them are not identifying it, even though they feel they have these symptoms of post-traumatic stress disorder, because they are afraid it will look bad on their service records so they are not getting whatever counseling they might get. If they stay in the service, they have problems of having this untreated. If they go into civilian life, again the same thing. They have the problem of being untreated.

Do we have provisions to really treat this? Do we have provisions to give the counseling, to do the identifying of it, number one; treat it, number two, and with useful numbers of our armed services at work trying to retain them and their skills in our services?

General PEAKE. Well, sir, there are a lot of pieces to this.

Senator LEAHY. I understand.

General PEAKE. I think we have and are addressing it aggressively. I will speak for the Army particularly because we have had the biggest bulk of folks on the ground facing those things recently.

This post-deployment screening is more than just checking off a piece of paper or a computer chip and sending it in. It entails a face-to-face discussion with a provider who has a sensitivity to those kinds of things. You are right, sir, that some people may or may not report at that point.

We have concern about the stigma that goes with an approach to mental health providers, and so the Army has invested in having what we call the Army One Source which offers up to six visits without any link to the military at all, like a civilian commercial establishment or industry might do. They can pick up a telephone and get an immediate contact and get into those six visits.

We have really tried to push to get our combat stress units integrated out into the units so that they get to know people. So they are less threatening and they are a part of the team using sort of the chaplain's model, if you will, because we want to make that kind of thing accessible.

Senator LEAHY. You mentioned the pre- and post-deployment questionnaires they fill out and I have seen those. I had raised the same concern about 10 years ago. Do we have a tracking system? Do we know how to follow this? Do we have things that, as we go through the periodic health baselines—they report to a physician when they are in Iraq or Afghanistan, wherever for something. I do not know what we have that can show this baseline from beginning to end to, among other things, have it so readily available even without the individual names, but quantitatively and qualitatively throughout the military so that you get an indication of we are having far more of these, far less of these. It would certainly be helpful to other parts of the Government, the VA, for example. It would be very helpful to them, far easier to assess disability claims that often come up, reliable data for epidemiological studies

later on. But we do not have something that can really do that, do we, General?

General PEAKE. Sir, we are heading in that direction. We do not have.

Senator LEAHY. What can we do to help you head a little faster?

General PEAKE. Well, we are in the process of trying to field what we call CHSCII which is basically a computerized patient record across all three services over the next 30 months. This post-deployment screening is actually going into a centralized database so that we can query those fields, and that would be available to the VA as well.

Senator LEAHY. But suppose you have, say, a Sergeant Peake out there who has 2 or 3 years in there, been deployed different places, to have some way that wherever they are, they could immediately go back and see Sergeant Peake—I do not mean to pick on you by any means, but it would be, okay, they were at Fort Benning and this is what was done. They were in Afghanistan. This was done. We moved him to Iraq and this was done. Now we have him at Fort Hood and this was done, but be able to pull up immediately and know now that you are at Fort Hood, you are being treated, for them to be able to tell immediately without having to go through all kinds of paperwork, to be able to say, okay, this is what happened to the sergeant in each of these other places. But we do not have that, do we?

General PEAKE. Sir, that is what I am saying. In Mobile, Alabama, we will have a central database that really has a virtual record, electronic record, for each soldier, sailor, airmen, and marine. And that is what we will have by the end of 30 months.

Senator LEAHY. The reason I mention this, General, you would get strong support as far as the money is concerned from both Republicans and Democrats on this committee because we have to continuously make decisions on where is the money going to the VA, where is the money going to go whether it is what Admiral Cowan or General Taylor or anybody else asks us for, where is the money coming from if we have to make choices. The only way you can make choices is with the best information, and if the disease is not malaria or whatever else, but they are post-traumatic stress syndrome, if it is eye injuries, if it is stress fractures, or whatever it might be, we can put the money in there. We could also put the designing of equipment. We can do everything else.

So I would urge you to keep that as a real priority so that we not only can track the individual person but that we could have collectively, whether it is for the VA or for anything else, we can do that. And also when somebody comes in with a disability claim years later, we can actually track and know exactly what happened.

I know I went over, Mr. Chairman, but I know this is something you are interested in too. I just really want to stress to them that it is a matter that we are all concerned with.

Senator STEVENS. Thank you very much, Senator.

We do want to move on to the next panel, but I want to give us each about 3 or 4 minutes for a second round.

MEDICAL RESEARCH

Let me just make a statement to all of you. In the past bills, we have had a continual increase in medical research funding. We have had money for neurofibrosis, diabetes, juvenile diabetes, ovarian cancer, breast cancer, prostate cancer, leukemia and other blood related cancers, tuberous sclerosis, and manganese health research, head and brain injuries, molecular medicine, muscle research. We had about three-quarters of a billion dollars earmarked last year.

I want you to take a look at that and tell us what of that is related to your current problems related to the war. I think we must emphasize war research in this. These people deserve the best and we have got to do everything we can to improve the type of treatment we can give them. I am not saying I am going to recommend we cut them out entirely, but I am going to recommend we reduce the research for non-war-related injuries and concentrate for this year that money in fiscal year 2005 on the real problem of trying to deal with this massive increase in these injuries.

I do not know if the committee is going to agree with me or not because there are enormous groups behind all those other concepts, but I do believe that we should emphasize the research for the basic people that need the treatment now. Those other research concepts are going on year after year after year. These people need help now. So we are going to try to concentrate on that if we can.

MEDICAL AND DENTAL SCREENING

Other than that, let me ask you this. We enacted legislation to make medical and dental screening, as well as access to TRICARE available to service members once they are alerted for active duty. How is that working out? Is it possible to do anything more? The former service reservists have told us that post-deployment medical screening has been improved, but it falls short of identifying the care that returning soldiers need. Those two things, upon being called up and released. What needs to be done? General?

General PEAKE. Well, sir, I think the opportunity to get them screened and to provide the care to bring them up to deployable standards before they are activated is important. It keeps us from wasting time at mob stations and that kind of thing. What we need to discipline ourselves better on—and I think we are really pushing in that direction—is to be able to have that data available to commanders so they know who needs what and insist that they maintain the appropriate standard.

In regards to the soldiers coming back, this post-deployment screening that I referred to makes sure that we identify at least what they will declare to us, but then they have the opportunity for VA care for 2 years for service-connected issues, as well as the opportunity to be in TRICARE for, right now, up to 180 days after their separation. So we are very interested in trying to make sure that they do get the kind of care that they need and the process is in place to do that.

Senator STEVENS. Admiral.

Admiral COWAN. I would echo, sir, what General Peake said. There are lots of pushups that have to be done to get some of the

reservists ready when they come in, but we have not had major difficulties doing that to get them up to a level of deployment health that they need to be able to go.

We believe that the policies for the screening, the post- and pre-deployment, the annual health assessment that we do are about right, and any failures on individual cases would be failures of execution that we work through on a daily basis to be as seamless as we can.

Senator STEVENS. Thank you.

General Taylor.

General TAYLOR. The Air Force relies heavily on our Reserve component, and over the last 5 years, from the air war over Serbia to today, we have constantly had to activate Guard and Reserves to help us. So our system is built on a fairly strong program during peacetime to ensure folks are ready to deploy. So we have had less of a problem on activation.

I think it is an extremely generous benefit from the Congress to ensure that we can have access to health care upon notification of orders, and then the 180 days afterwards becomes very important to us.

Also in the Air Force, we have run a system that requires the Assistant Secretary of the Air Force to sign off on any medical mobilization extensions, which puts a driving force on us medics to make sure we are taking care of our people as quickly as possible.

So the combination of those two have made our numbers of folks that have had issues smaller. Very clearly, we have not had the kind of catastrophic injuries that the marines and the soldiers have had over the last year.

Senator STEVENS. Thank you.

I am going to put in the record Karl Vick's Washington Post report of the lasting wounds of this war that was in the Washington Post on April 27. I will put it in the record at this point.

[The article follows:]

[From The Washington Post, April 27, 2004]

THE LASTING WOUNDS OF WAR; ROADSIDE BOMBS HAVE DEVASTATED TROOPS AND DOCTORS WHO TREAT THEM

(Karl Vick, Washington Post Foreign Service)

The soldiers were lifted into the helicopters under a moonless sky, their bandaged heads grossly swollen by trauma, their forms silhouetted by the glow from the row of medical monitors laid out across their bodies, from ankle to neck.

An orange screen atop the feet registered blood pressure and heart rate. The blue screen at the knees announced the level of postoperative pressure on the brain. On the stomach, a small gray readout recorded the level of medicine pumping into the body. And the slender plastic box atop the chest signaled that a respirator still breathed for the lungs under it.

At the door to the busiest hospital in Iraq, a wiry doctor bent over the worst-looking case, an Army gunner with coarse stitches holding his scalp together and a bolt protruding from the top of his head. Lt. Col. Jeff Poffenbarger checked a number on the blue screen, announced it dangerously high and quickly pushed a clear liquid through a syringe into the gunner's bloodstream. The number fell like a rock.

"We're just preparing for something a brain-injured person should not do two days out, which is travel to Germany," the neurologist said. He smiled grimly and started toward the UH-60 Black Hawk thwump-thwumping out on the helipad, waiting to spirit out of Iraq one more of the hundreds of Americans wounded here this month.

While attention remains riveted on the rising count of Americans killed in action—more than 100 so far in April—doctors at the main combat support hospital

in Iraq are reeling from a stream of young soldiers with wounds so devastating that they probably would have been fatal in any previous war.

More and more in Iraq, combat surgeons say, the wounds involve severe damage to the head and eyes—injuries that leave soldiers brain damaged or blind, or both, and the doctors who see them first struggling against despair.

For months the gravest wounds have been caused by roadside bombs—improvised explosives that negate the protection of Kevlar helmets by blowing shrapnel and dirt upward into the face. In addition, firefights with guerrillas have surged recently, causing a sharp rise in gunshot wounds to the only vital area not protected by body armor.

The neurosurgeons at the 31st Combat Support Hospital measure the damage in the number of skulls they remove to get to the injured brain inside, a procedure known as a craniotomy. “We’ve done more in eight weeks than the previous neurosurgery team did in eight months,” Poffenbarger said. “So there’s been a change in the intensity level of the war.”

Numbers tell part of the story. So far in April, more than 900 soldiers and Marines have been wounded in Iraq, more than twice the number wounded in October, the previous high. With the tally still climbing, this month’s injuries account for about a quarter of the 3,864 U.S. servicemen and women listed as wounded in action since the March 2003 invasion.

About half the wounded troops have suffered injuries light enough that they were able to return to duty after treatment, according to the Pentagon.

The others arrive on stretchers at the hospitals operated by the 31st CSH. “These injuries,” said Lt. Col. Stephen M. Smith, executive officer of the Baghdad facility, “are horrific.”

By design, the Baghdad hospital sees the worst. Unlike its sister hospital on a sprawling air base located in Balad, north of the capital, the staff of 300 in Baghdad includes the only ophthalmology and neurology surgical teams in Iraq, so if a victim has damage to the head, the medevac sets out for the facility here, located in the heavily fortified coalition headquarters known as the Green Zone.

Once there, doctors scramble. A patient might remain in the combat hospital for only six hours. The goal is lightning-swift, expert treatment, followed as quickly as possible by transfer to the military hospital in Landstuhl, Germany.

While waiting for what one senior officer wearily calls “the flippin’ helicopters,” the Baghdad medical staff studies photos of wounds they used to see once or twice in a military campaign but now treat every day. And they struggle with the implications of a system that can move a wounded soldier from a booby-trapped roadside to an operating room in less than an hour.

“We’re saving more people than should be saved, probably,” Lt. Col. Robert Carroll said. “We’re saving severely injured people. Legs. Eyes. Part of the brain.”

Carroll, an eye surgeon from Waynesville, Mo., sat at his desk during a rare slow night last Wednesday and called up a digital photo on his laptop computer. The image was of a brain opened for surgery earlier that day, the skull neatly lifted away, most of the organ healthy and pink. But a thumb-sized section behind the ear was gray.

“See all that dark stuff? That’s dead brain,” he said. “That ain’t gonna regenerate. And that’s not uncommon. That’s really not uncommon. We do craniotomies on average, lately, of one a day.”

“We can save you,” the surgeon said. “You might not be what you were.”

Accurate statistics are not yet available on recovery from this new round of battlefield brain injuries, an obstacle that frustrates combat surgeons. But judging by medical literature and surgeons’ experience with their own patients, “three or four months from now 50 to 60 percent will be functional and doing things,” said Maj. Richard Gullick.

“Functional,” he said, means “up and around, but with pretty significant disabilities,” including paralysis.

The remaining 40 percent to 50 percent of patients include those whom the surgeons send to Europe, and on to the United States, with no prospect of regaining consciousness. The practice, subject to review after gathering feedback from families, assumes that loved ones will find value in holding the soldier’s hand before confronting the decision to remove life support.

“I’m actually glad I’m here and not at home, tending to all the social issues with all these broken soldiers,” Carroll said.

But the toll on the combat medical staff is itself acute, and unrelenting.

In a comprehensive Army survey of troop morale across Iraq, taken in September, the unit with the lowest spirits was the one that ran the combat hospitals until the 31st arrived in late January. The three months since then have been substantially more intense.

"We've all reached our saturation for drama trauma," said Maj. Greg Kidwell, head nurse in the emergency room.

On April 4, the hospital received 36 wounded in four hours. A U.S. patrol in Baghdad's Sadr City slum was ambushed at dusk, and the battle for the Shiite Muslim neighborhood lasted most of the night. The event qualified as a "mass casualty," defined as more casualties than can be accommodated by the 10 trauma beds in the emergency room.

"I'd never really seen a 'mass cal' before April 4," said Lt. Col. John Xenos, an orthopedic surgeon from Fairfax. "And it just kept coming and coming. I think that week we had three or four mass cal's."

The ambush heralded a wave of attacks by a Shiite militia across southern Iraq. The next morning, another front erupted when Marines cordoned off Fallujah, a restive, largely Sunni city west of Baghdad. The engagements there led to record casualties.

"Intellectually, you tell yourself you're prepared," said Gullick, from San Antonio. "You do the reading. You study the slides. But being here . . ." His voice trailed off.

"It's just the sheer volume."

In part, the surge in casualties reflects more frequent firefights after a year in which roadside bombings made up the bulk of attacks on U.S. forces. At the same time, insurgents began planting improvised explosive devices (IEDs) in what one officer called "ridiculous numbers."

The improvised bombs are extraordinarily destructive. Typically fashioned from artillery shells, they may be packed with such debris as broken glass, nails, sometimes even gravel. They're detonated by remote control as a Humvee or truck passes by, and they explode upward.

To protect against the blasts, the U.S. military has wrapped many of its vehicles in armor. When Xenos, the orthopedist, treats limbs shredded by an IED blast, it is usually "an elbow stuck out of a window, or an arm."

Troops wear armor as well, providing protection that Gullick called "orders of magnitude from what we've had before. But it just shifts the injury pattern from a lot of abdominal injuries to extremity and head and face wounds."

The Army gunner whom Poffenbarger was preparing for the flight to Germany had his skull pierced by four 155 mm shells, rigged to detonate one after another in what soldiers call a "daisy chain." The shrapnel took a fortunate route through his brain, however, and "when all is said and done, he should be independent. . . . He'll have speech, cognition, vision."

On a nearby stretcher, Staff Sgt. Rene Fernandez struggled to see from eyes bruised nearly shut.

"We were clearing the area and an IED went off," he said, describing an incident outside the western city of Ramadi where his unit was patrolling on foot.

The Houston native counted himself lucky, escaping with a concussion and the temporary damage to his open, friendly face. Waiting for his own hop to the hospital plane headed north, he said what most soldiers tell surgeons: What he most wanted was to return to his unit.

Senator STEVENS. Senator Inouye.

Senator INOUE. Thank you very much.

MEDICAL PERSONNEL SHORTAGES

According to information we have received, the Army Reserve had 3,000 physicians in 1991 and today they are 1,550. The Naval Reserve went from 2,191 in 1900 to 1,000 today. The Air Force currently has 761 physicians.

We have been advised that the Air Force is short on dentists, nurses, occupational therapists, and is relying on incentive pay and ongoing initiatives for school loan repayment options for recruiting and retention. The Army is short on nurse anesthetists, general surgeons, anesthesiologists, neurosurgeons. The Navy is short on nurses and dental corps personnel.

I realize that we will not have the time today, but can you advise this committee as to what you are doing about this or what can be done and what can be done by this committee? If you could, please provide us a brief response.

Admiral COWAN. Sir, we will respond to that in more detail in the immediate future.

Part of the reduction of reservists for the Navy is an intentional part of the transformation of the Navy because we use our reservists in different ways. Part of the cuts in Reserves were actually cuts of billets not people. They were billets that we could not match the skill next to. We now use our Reserves as more of an integrated force than in the past. So the degree of risk that we may be running with our Reserve assets is only perhaps marginally larger or the same as it was before.

That being said, we do have ongoing difficulties with shortages in specific areas, and I will provide you information on the programs that we are working to improve those.

[The information follows:]

The Medical Corps currently has shortages in anesthesiology, surgery, urology, neurosurgery and radiology. The Medical Corps primarily uses the Health Professions Scholarship Program and the Uniformed Services University of the Health Sciences, as it's primary accession pipeline. Students are recruited for these programs and then get into specialties based on the Navy's need and the availability of training positions. Another method to increase the number of critical shortage specialists is the use of fellowship training to entice specialists in critical areas to remain on active duty. In addition, a new training program in radiology at Naval Medical Center Portsmouth, Virginia was opened in 2003, which will increase the number of graduating radiologists per year from in service training programs.

The Nurse Corps continues to focus on a blend of initiatives to enhance our recruitment and retention efforts, such as:

- Diversified accession sources, which also include pipeline scholarship programs (Nurse Candidate Program, Naval Reserve Officer Training Corps, Medical Enlisted Commissioning Program, and Seaman to Admiral Program).
- Pay incentives (Nurse Accession Bonus, Certified Registered Nurse Anesthetist Incentive Special Pay, and Board Certification Pay).
- Graduate education and training programs, which focus on Master's Programs, Doctoral Degrees, and fellowships. Between 72–80 officers/year receive full-time scholarships based on operational and nursing specialty requirements.
- Successful recruiting incentives for reservists in critical wartime specialties include: the accession bonus and stipend program for graduate education.

The Medical Service Corps is comprised of 32 different health care specialties in administrative, clinical and scientific fields. The educational requirements are unique for each field; most require graduate level degrees, many at the doctoral level. End of fiscal year 2003 manning was at 98.2 percent, however, difficulties remain in retaining highly skilled officers in a variety of clinical and scientific professions. Entomology and Physiology are currently undermanned by more than 10 percent. Entomology has not met direct accession goals since fiscal year 1999 and Physiology has not met direct accession goals since fiscal year 1998. Use of the Health Services Collegiate Program (HSCP), a Navy student pipeline program, was instituted for the Entomology community in fiscal year 2002 and for the Physiology community in fiscal year 2003. The use of HSCP for these communities seems to be an effective means to achieve the accession goals for these communities.

The Dental Corps currently have their greatest shortages in general military dentists; endodontists (root canal specialists); Oral and Maxillo-Facial Surgeons and prosthodontists. The Dental Corps uses the Health Professions Scholarship Program (HPSP) as it's primary accession pipeline. Dental students are recruited for these programs and then get into specialties based on the Navy's need and the availability of training positions. At the present time, recent graduates are being deferred for residency training in these shortage areas on a case-by-case review.

General PEAKE. Sir, I mentioned the 90-day rotations to be able to enable dentists, nurse anesthetists, and physicians to be able to be away from their practice a reasonable period and still be able to be incorporated back into that practice when they get there. Even with that 90 days, it is stressful. I have had one say, well, I can do 90 days, but I cannot do 90 days every year, that kind of notion. So the OPTEMPO is part of it.

I think we are about to restructure our Reserves so that we have a United States Army Reserve medical command that will allow us to focus the management of all of those critical assets in a more homogeneous way. So there is a restructuring initiative that is going on.

The other aspects of it are on the active side, and so we have to keep a close eye on that, given the OPTEMPO and PERSTEMPO as well. So I think the issue of restructuring our bonuses is important and we need to be able to look forward to getting that updated because we have not really updated it in a while.

General TAYLOR. We will respond in more detail to you, Senator.

I also think for the reservists in particular it is difficult in today's medical practice. Many of the providers operate very close to the margin. So taking them out for long periods of time oftentimes can destroy a practice.

So all of us—and you heard from General Peake—are trying to work ways where we can bring them on active duty for short periods of times, particularly through a volunteer system, so they could support perhaps 30 days every couple of years. So we are all actively trying to work ways of doing that. We have been aggressively trying to do that so that it counts as 2 years' worth of points and 1 year, one 30-day activation. So we are working real hard to do that.

Certainly pay and environment of care is an important aspect, as well as trying to make continued service in the Guard and Reserve for our folks who elect to leave active duty an important piece of a smooth transition from being on active duty status. We are hoping to be able to gather more folks up to serve in these critical positions in the Guard and Reserve. We have not seen a radical drop in physicians in particular within the Guard and Reserves, but it is very troublesome seeing how much we used them in the last couple of years.

RECRUITING AND RETENTION

Senator INOUE. There are certain statistics we watch very carefully. One, obviously, is recruiting and retention of active duty medical personnel. Are we in good shape?

General PEAKE. Sir, we are in the Army on the Health Professions Scholarship Program (HPSP), of course, with the Uniformed Services University of the Health Sciences (USUHS), but really in the larger extent it is our health professional scholarship programs. Those costs have increased significantly to the point where I had to look into other sources of funds other than what we had programmed just because the tuition costs have gone up so much as we put people out into civilian training, which is tremendously important for us. That is really our best recruiting tool.

I know Debbie Gustke will talk more about nursing in the next panel, the kinds of things that we are doing to try to encourage nurses to join our Army as well.

I think what General Taylor talked about in terms of environment of care is terribly important. We have to have a quality system and the kind of quality places for them to come in and practice. Otherwise, they really will not want to be a part of a second-rate organization. So we have got to keep that first-rate.

Senator INOUE. Thank you, Mr. Chairman.

Senator STEVENS. Well, we would like to pursue that conversation with you and your successors. I know some medical people up my way who would welcome a chance to have a quarter of 1 year away from their practice and to have some different surroundings. If they had a commitment that they would not be yanked out for 1 year later, they might make that commitment. We need to devise some innovative programs to give particularly these young doctors who get stuck in some place and they do not get a chance to travel. It will give them a chance to get involved and be active duty for 2 months a year or something like that and give them a commitment they will not be called up for longer in a certain period, whatever it is, and have some bonuses involved in that training. It might be easier to do that than to get more scholarships and whatnot, to get more people who really end up by not being available anyway after they have left the service.

We want to thank you again. General Peake and Admiral Cowan, we have enjoyed your participation in our process here and we respect your commitment to your military service and your medical profession. So we wish you well.

General Taylor, you will be over at the left-hand side of the table next year. So we will look forward to that. I remember when I was sitting down at the end of this table once when an old friend of mine, who was the chairman—I had known him years before—he called me over and he said, do you know how much seat time you are going to have to log to get to sit where I am sitting?

So cheer up. You moved very quickly.

We will proceed to the nursing now and hear from the Chiefs of the service nursing corps. We thank you very much, Admiral and Generals.

Your nursing corps is vital to the success of our military medical system as any part of it. We thank you for your leadership and we look forward to hearing from you. We welcome you again. We are going to hear from Colonel Deborah Gustke, the Assistant Chief of Army Nurse Corps. We welcome Admiral Nancy Lescavage, Director of the Navy Nurse Corps, and from the Air Force, we have General Barbara Brannon, Assistant Surgeon General for Nursing. We welcome you all back warmly. None of you are leaving us this year, are you?

Colonel GUSTKE. Yes, sir.

Senator STEVENS. I yield to my good friend and co-chairman.

Senator INOUE. I would like to join you in congratulating and thanking all of the nurses here.

Major General Brannon, I believe you are the first to be a major general.

General BRANNON. I am, sir, in the Air Force.

Senator INOUE. Congratulations.

General BRANNON. Thank you for the great honor. It is very humbling.

Senator INOUE. Let us hope that you are the first of many.

I am especially proud to see Admiral Lescavage here. I have special pride in that she served on my staff for a while as a fellow.

We will hear from Colonel Gustke. Some day, if you stick around, you will have a star as well.

I understand that the Army has been operating without a Nurse Corps chief since General Bester retired. I understand that you will also be retiring.

Colonel GUSTKE. Yes, sir.

Senator INOUE. Don't you want to wait until you receive your star?

Seriously, I would like to thank you for your many years of service to our Nation. Thank you so much.

Colonel GUSTKE. Thank you, sir.

Senator STEVENS. Thank you all. Your statements will appear in the record in full. We will look forward to your comments. Colonel, we call on you first.

**STATEMENT OF COLONEL DEBORAH A. GUSTKE, ASSISTANT CHIEF,
ARMY NURSE CORPS**

Colonel GUSTKE. Mr. Chairman and distinguished members of the committee, thank you for the opportunity to update you on the Army Nurse Corps.

As of April 2004, we have deployed over 814 Army nurses to places such as Afghanistan and Iraq, serving as members of forward surgical teams in support of our deployed divisions, and as staff within our 31st Combat Support Hospital, 67th Combat Support Hospital, and 325th U.S. Army Reserve Field Hospital.

We have numerous Reserve nurses who are serving in back-fill roles in our medical treatment facilities. Furthermore, 158 Reserve and National Guard nurses are serving as case managers at the regional medical commands, mobilization sites, and at the community-based health care initiatives which were established to provide medical holdover management for soldiers impacted deployment.

We have a very strong focus on reintegration of our personnel once they return home and are continuing to assess whether the rapid deployment tempo is impacting retention. I am pleased to tell you that last year in fiscal year 2003 we experienced the lowest attrition rate in the past 5 years. We continue to collect data from Army nurses and the reasons for attrition have remained constant over the last few years without any new emerging trends.

At home we continue to leverage all available incentives and professional opportunities in recruiting and retaining both our civilian and military nursing personnel. Simply put, the direct hire authority for registered nurses authorized by Congress has substantially benefitted our hiring efforts. In fiscal year 2003 we achieved an unprecedented 94 percent fill rate of documented civilian registered nurse positions, an overall turnover rate of less than 14 percent. Our hiring reflects improvement over the past 3 years for registered nurses.

We continue, however, to have barriers in hiring our licensed practical nurses and strongly affirm that direct hire authority needs to be extended to include this extremely valuable nursing population.

We believe that we have strong recruitment and retention tools to address the long-term impact of the decreased nursing pool on our military nursing recruiting efforts. Although the Army Nurse Corps was below our fiscal year 2003 budgeted end strength, the decrement is less than in the past 2 years. We are confident that

the recruiting and retention strategies in place, such as the increased accession bonus and the health loan repayment program, will continue to help reduce the decrement in future years.

We also increased the number of soldiers who are sponsored to obtain their baccalaureate nursing degree through the Army enlisted commissioning program. We continue to take aggressive measures to strengthen nurse accessions through the Army Reserve Officer Training Corps and the United States Army Recruiting Command. We offer Reserve Officer Training Corps (ROTC) nurses scholarships at nearly 200 nursing schools and have increased the collaborative relationship between our health care recruiting resources in ROTC and the United States Army Recruiting Command (USAREC).

Army nurses continue to be at the forefront of relevant nursing research that is focused on our research priorities of readiness and nursing practice. We have nearly 90 research studies currently in progress and continue to foster involvement in the research process at all levels of our organization. Our research accomplishments include the development of 23 evidence-based standardized treatment guidelines for musculoskeletal injuries most common to soldiers.

Our Military Nursing Outcomes Database study, known as MilNOD is now in the fourth year of study and has resulted in the development of staffing and patient safety reports for the Army hospitals. This study also affirms our strong belief in collaborative nursing research as we have influenced the development of the Veterans Affairs Nursing Outcomes Database with a similar design. This project truly demonstrates what is best about nursing research and Federal nursing collaboration.

Along with our Federal nursing colleagues, our commitment to the tri-service research program and the graduate school of nursing at the Uniformed Services University of the Health Sciences remains very strong. Both these programs are distinct cornerstones of our Federal nursing education and research efforts and clearly demonstrate nursing excellence.

Thank you, sir, for your continued support of both these exemplary programs as it enables us to continue to produce advances in nursing education, research, and practice for the benefit of our soldiers and their family members and our deserving retiree population.

Finally, Senators, we are firmly determined to meeting and overcoming any challenge that we face this year and are committed to meet the uncertain challenges of the future. We are further motivated by the impressive, steadfast courage and sacrifice demonstrated by all the fine men and women in uniform who are serving our great Nation. We will continue our mission with a sustained focus on readiness, expert clinical practice, sound educational preparation, professionalism, leadership, and the unfailing commitment to our Nation that have been distinguishing characteristics of our Army nurses and organization for over 103 years.

As I conclude my 32 years of service in the Army Nurse Corps, I am most proud of all the tremendous civilian and military nursing personnel that represent this great Army Nurse Corps.

PREPARED STATEMENT

Thank you again for your support and for providing the opportunity for us to present the extraordinary efforts, sacrifices, and contributions made by all Army nurses who always stand ready, caring, and proud. Thank you, sir.

Senator STEVENS. Thank you very much.
[The statement follows:]

PREPARED STATEMENT OF COLONEL DEBORAH A. GUSTKE

Mr. Chairman and distinguished members of the committee, I am Colonel Deborah A. Gustke, Assistant Chief, Army Nurse Corps. Thank you for providing the opportunity this year to update you on the state of the Army Nurse Corps. I am pleased to represent Brigadier General William T. Bester, Chief of the Army Nurse Corps, who is currently transitioning to retirement after a very distinguished thirty-five year military career. The past year has been challenging for our great Nation as well as for the Army Nurse Corps. We have sustained a deployment rate in recent months not seen since the Vietnam era and I am extremely proud to report that the Army Nurse Corps has again demonstrated our flexibility and determination to remain ready to serve during these challenging and difficult times.

We remain very engaged in our Army's efforts in support of operations around the world. As of March 2004, we have deployed over 814 Army nurses to places such as Afghanistan and Iraq. Our nurses are providing expert care in every health care setting. There are Army nurses on Forward Surgical Teams performing immediate life-saving care to our soldiers. We have Army nurses assigned to the combat divisions who are responsible for educating and sustaining our enlisted combat medics—our linchpin to soldier care. Army nurses perform both clinical and leadership roles in the two deployed Combat Support Hospitals (CSH) and one Field Hospital. At present, the 31st Combat Support Hospital from Fort Bliss, TX and the 67th CSH from Wuerzberg, Germany are on the ground in Iraq and the 325th Field Hospital, United States Army Reserve, headquartered from Independence, MO, is currently on the ground in Afghanistan. These units in Iraq recently conducted a seamless transition with the 28th CSH from Fort Bragg, NC and the 21st CSH from Fort Hood, TX, who have now safely returned home. We are firmly supporting organized reintegration programs for the members of these units at their home stations to ensure that the transition to home is as supportive and successful as possible. We are truly proud of the Army nurses and all the medical personnel who served and are currently serving with these and all the medical units.

Our Reserve Nurse Corps officers are demonstrating the necessary leadership and clinical expertise in support of current operations in many settings around the world. In addition to the nurses in theater, numerous other Reserve nurses are serving in backfill roles in our Medical Treatment Facilities (MTFs). Furthermore, 158 Reserve and National Guard nurses are serving as case managers at the Regional Medical Commands, mobilizations sites and at the community based health care initiative sites, established to provide medical holdover management for soldiers impacted by deployment. With the addition of Army nurse case managers in June 2003, the flow and disposition rate of medical holdovers has increased dramatically. Army nurses possess the necessary mix of leadership and clinical skills to perform nursing care in any setting and in any role. I strongly believe that we have fully demonstrated this throughout our one hundred and three year history, and especially since September 11, 2001.

The current world environment is not without challenges for the Army Nurse Corps in several arenas. The National nursing shortage continues to impact the ability of the Army Nurse Corps to attract and retain nurses. Although we are encouraged by recent increases in nursing school application numbers, concerns continue over the lack of nursing school capacity due to the availability of adequate faculty. We wholeheartedly support initiatives that attract and retain nursing school faculty and believe that it will be critical to continue developing programs necessary to meet current and future faculty shortfalls.

We have worked diligently in the past year to minimize the impact of a decreased nursing personnel pool on our civilian nurse strength. Civilian nurses continue to comprise the majority of our total nurse workforce and have performed exceptionally during the recent staffing transitions at our MTFs as our active and reserve nurses mobilize in support of operations around the world. Our civilian nurses have demonstrated true resiliency and the willingness to absorb the necessary roles to ensure that we don't miss a beat as we provide expert nursing care to our beneficiaries.

We continue to have success with the Direct Hire Authority. In fiscal year 2003, we achieved a 94 percent percent fill rate of documented civilian Registered Nurse positions and an overall turnover rate of 14 percent. These numbers reflect continued improvements over the past three years and the high fill rate percentage demonstrates that Direct Hire Authority is successful. We will continue to monitor strategies to address retention efforts such as supporting opportunities for continuing education and professional development programs for our civilian Registered Nurses. Although in fiscal year 2003, for the first time in three years, we experienced a decline in the fill rate for civilian Licensed Practical nurse positions, but we experienced a decreased turnover rate. In fiscal year 2003, it took an average of 84 days to fill a Licensed Practical Nurse position, nearly 30 more days than the Army standard of 55 days. We're reviewing the options we have to ease the recruitment and hiring lag that we currently experience in this valuable nursing personnel population.

The Army Nurse Corps remains actively engaged in a DOD effort to simplify and streamline civilian personnel requirements and prepare our processes to compliment the evolving National Security Personnel System (NSPS). We support having the flexibility necessary to respond to the rapidly changing civilian market and are encouraged by the projected use of pay banding to facilitate regional hiring and retention differences. We are now able to implement the needed flexible special pay strategies within the pay system and are pursuing financing strategies to execute this authority this fiscal year. In addition, we are ready to implement the clinical education template currently required in the legislation in order to ensure consistency of hiring practices.

We believe that we have assertively leveraged strong recruitment and retention tools to address the long-term impact of the decreased nursing pool on our military nurse recruiting efforts. Although the Army Nurse Corps was below our fiscal year 2003 end-strength of 3,381 by 154, this decrement has closed since fiscal year 2002 and we are confident that the recruitment and retention strategies in place will continue to help reduce future shortfalls. We continue to take aggressive measures to strengthen our position in both the Army Reserve Officers' Training Corps (AROTC) and United States Army Recruiting Command (USAREC) recruiting markets. We now offer AROTC nursing scholarships to students at approximately 200 nursing schools across the country. One of the greatest recruiting tools for AROTC and nursing is the Nurse Educators Tour to the AROTC Leader Development and Assessment Course at Fort Lewis, WA. This course is the capstone evaluation program for AROTC cadets in the summer between their junior and senior years and impressively demonstrates the finest qualities of our future officers. In the past, we were limited to hosting 30 nurse educators, but now have secured resources to host up to 150 educators. Last summer, 104 nurse educators came to Fort Lewis and left with a new found appreciation for the benefit of AROTC training as well as for the Army Nurse Corps as a tremendous environment for their students to practice the art and science of nursing. Upon returning to school last fall, one nurse educator personally escorted five nursing students to the AROTC cadre to discuss scholarship options. It is clearly evident that the influence of nurse educators on prospective Army Nurses is integral to our efforts in AROTC and we will continue to foster those strong relationships.

We have also taken strides to increase the collaborative relationship between our health care recruiting resources in AROTC and USAREC. This collaborative non-competitive partnering was initiated to maximize the Army Nursing presence on campus and to present a unified Army Nurse Corps team to the nursing students and faculty. As of February 2004, this collaborative effort has resulted in 60 referrals to USAREC by AROTC Nurse Counselors. We will continue to support this professional partnering in nurse recruiting.

Regarding compensation incentives, we have been successful in increasing the accession bonus and are working towards incremental increases up to our authorized level in future years. We are particularly proud to report that the Health Professions Loan Repayment Program (HPLRP), implemented at the end of fiscal year 2003 and continuing into fiscal year 2006, has been very successful. We have been able to optimize the use of this program for both new accessions as well as for retention of our fine company grade Army Nurse Corps officers. We believe that these incentive programs, coupled with established professional leadership and clinical education programs, are instrumental in our efforts to retain Army nurses during the early phase of their careers. Finally, we continue to be extremely successful in providing a solid progression program for our enlisted personnel to obtain their baccalaureate nursing degree through the Army Enlisted Commissioning Program. Our intent is to consistently sponsor 85 enlisted soldiers each year to complete their nursing education to become Registered Nurses and subsequently, Army Nurse

Corps officers. We have married the support framework of these soldiers to our AROTC resources at the various colleges and universities in order to ensure that our enlisted soldiers have the support and mentoring they so richly deserve while they are pursuing their nursing studies. Graduates from this program continue to provide the Army Nurse Corps with nurses who are strong soldiers and leaders.

Our focus on retention of our junior nurses will always be important and in fact, in fiscal year 2003, we experienced the lowest attrition rate in the past five years. We believe that the robust compensation strategies such as their base pay, allowances, the Health Professions Loan Repayment Program (HPLRP) and the Incentive Specialty Pays for our Certified Registered Nurse Anesthetists (CRNA) have been paramount in our effort to recognize individuals for their tremendous efforts and sacrifices, especially during the continued high operational tempo. We continue to collect data from Army nurses who choose to leave the Army and are analyzing the recent data to assess any impact that the swift deployment tempo may have on our retention efforts. The results to date do not reflect that the losses are related to deployment, but we will continue to track and assess this very closely.

Each year, the Army Nurse Corps continues to sponsor the largest number of nurses, compared to any Service, to pursue advanced nursing education in a variety of specialty courses as well as in masters and doctoral programs. We know that this education program, coupled with the military leadership development, positively impacts improved clinical practice environment, mentoring relationships, and role satisfaction.

It is a pleasure to be able to highlight good news stories about nurses affiliated with the Army Medical Department (AMEDD) Center and School and at the many MTFs around the world who are working tirelessly to improve the clinical, education, research, and leadership environments. At the AMEDD Center and School, we have increased our training capacity for CRNAs in order to address a critical shortfall in this specialty. This involved opening a clinical training site at Brooke Army Medical Center, in San Antonio, TX, that allows us to produce an additional four CRNA nurses each year. As a result, we will increase our ability to fill the operational requirements for these nurses as well as decrease the current costs of contracting civilian CRNA personnel in our facilities.

Army Nurses are integral to the Army Medical Reengineering Initiative at all levels of our organization. To support the conversion of our enlisted/officer Licensed Practical Nurse (LPN) to an expanded level of patient care capability, Army Nurses designed and implemented a new educational program of instruction for the LPN training program. This improvement refocused training to include a greater emphasis on critical care and trauma skills in support of the revised wartime mission of these soldiers. Our first class, under the improved program of instruction, began in late 2003 and we are confident that this training will produce the highly trained Practical Nurse sought by the Army. Army Nurses are also very proud to be an integral part of the transformation of the new enlisted Healthcare Specialist Military Occupational Specialty (91Ws). We are imbedded in the training units as leaders and educators. In fact, there are 32 Army Nurse Corps officers directly assigned to the combat divisions who are working to ensure that our 91W soldiers sustain their training and preparation needed to provide the most far forward care. Over the past year, as they have throughout history, our medics have performed admirably and we are very proud to serve side by side with these exceptional soldiers. We will continue to steadfastly support all aspects of this transformation until it is completed and sustainment training practices are well established.

The Army Nurses at Tripler Army Medical Center, Hawaii have implemented a professional practice model for all its nurses. The model is a standards and role-based model that clearly delineates the role of the nurse and provides more consistent tools for use in the performance evaluation process. This process has significantly assisted our new nurses in understanding role expectations as well as assisted our nurse leaders in clearly articulating expectations to the nursing staff. This process is ongoing and we are exploring the potential of expanding this concept to other MTFs. The Army Nurses from Hawaii are also in demand around the Pacific Rim and have established professional dialogue with the Royal Thai Nurses, The Australian Nurse Corps, and the New Zealand Defence Corps. In addition, Army Nurses have presented on clinical and professional nursing issues in Bangkok, Thailand and Hanoi, Vietnam. We will continue to sponsor this professional collaboration in the spirit of international cooperation and mutual benefit.

Last year, we presented information on the Combat Trauma Registry initiative that was employed at Landstuhl, Germany and contained retrospective data entered on soldiers injured in Afghanistan in support of Operation Enduring Freedom. I am pleased to report that this database is now termed the Army Medical Department Theater Trauma Registry (AMEDD TTR) and is a web-based system, with DOD

interface, now capable of concurrent data collection and casualty reporting. The AMEDD TTR collects data on all casualties, all U.S. military personnel and any NATO and allied military personnel and local nationals, treated at U.S. facilities in Operation Iraqi Freedom. Army Nurses in partnership with experts from the Institute of Surgical Research, Walter Reed Army Medical Center, Landstuhl Army Medical Center, the Armed Forces Institute of Pathology and the Navy Health Research Center have worked tirelessly on this project. It is expected that the results of this data collection and analysis will provide information pertinent in the development of improved medical training, equipment, and practice modalities for future operations.

Army nurses continue to be at the forefront of nursing research focused on the five Army Nurse Corps research priorities of identification of specialized clinical skill competency training and sustainment requirements, issues related to pre-, intra-, and post-deployment, issues related to the nursing care of our beneficiaries in garrison, nurse staffing requirements and their relationship to patient outcomes, and finally, issues related to civilian and military nurse retention. Today I will share with you our progress and accomplishments in these five priority areas.

The Military Nursing Outcomes Database (MilNOD) project is now in the fourth year of study and incorporates research efforts across the military nursing services. The participating sites include Walter Reed Army Medical Center, Madigan Army Medical Center, Womack Army Medical Center, Dewitt Army Community Hospital, Malcolm Grow Air Force Medical Center, Naval Hospital Bremerton and Naval Hospital Whidbey Island. This project is collecting data to support evidence-based clinical and administrative decision-making and create a reliable and valid database consisting of standardized nurse staffing and patient safety data. In addition, the investigation team is working with the California Nursing Outcome Coalition (CalNOC), a repository of staffing and patient safety data from 120 California hospitals, to benchmark data from like facilities. Although still in progress, this project has resulted in very promising findings to include the development of staffing and patient safety reports for the Army hospitals. The content of these reports meets the JCAHO compliance measures for staffing effectiveness measures and is being used by the nursing leadership in staffing pattern decisions. In addition, the MilNOD data on patient safety related to pressure ulcers revealed that nurses at Walter Reed were noticing that some of the ill or injured patients returning from deployment were experiencing pressure ulcers. This finding led to a discussion of pressure ulcer prevention in the field setting and resulted in the sharing of pressure ulcer prevention protocols from the Medical Center with the Combat Support Hospital in theater. In addition, nurses determined that the field litters currently used to support and transport patients did not provide the necessary padding protection against the development of pressure ulcers. This finding opens up a whole new area for potential inquiry and intervention. The MilNOD project is a tremendous long-term effort by nurses in all three services and has now influenced the development of the Veteran's Affairs Nursing Outcomes Database (VANOD). This project truly demonstrates what is best about nursing research and Federal Nursing collaboration.

Army nurse researchers at Madigan Army Medical Center have also developed 23 evidence-based standardized treatment guidelines for musculoskeletal injuries most common to soldiers. These guidelines provide information on patient education, exercise regimes with photographic aids, diagnostic information, and medical profile information. There have been hundreds of requests for these guidelines from deploying units as well as from providers at MTFs at home and each of these guidelines may be found on-line at the Madigan Army Medical Center website.

Our Nursing Anesthesia students continue to add to our growing body of knowledge in nursing anesthesia care for our beneficiaries at home or our soldiers in a deployment setting. This past year, several studies were done on monitoring techniques, warming techniques, gender differences in medication dosage levels and the impact of medication use on pain perception. We are extremely proud of the research that all our students accomplish while they are completing very vigorous programs of study.

Our civilian nurses are also very involved in nursing research. Nurse researchers at Fort Carson, CO received a National Institutes of Health grant to study self-diagnosis of genitourinary infection of deployed women. The study plan is to develop a safe and accurate field expedient self-diagnosis and treatment kit for genitourinary infections to be used by military women deployed to austere environments. In a preliminary study involving over 800 military women, the investigators learned that 87 percent of these women experienced symptoms of infection at some point during the deployment. Nearly half of the women reported that the symptoms resulted in decreased work performance and 24 percent reported lost hours of work time. It is evi-

dent that the outcomes of this research could have a positive impact on readiness and women's health in the deployed environment. This study has far reaching implications for other humanitarian organizations that send women to areas in which the needed health care may not be readily accessible or available.

The Army Nurse Corps research priorities are extremely timely and relevant to the research being conducted by our civilian nursing colleagues. A study recently completed in December 2003 by Lieutenant Colonel Patricia Patrician, an Army Nurse Corps researcher from Walter Reed Army Medical Center, focused on assessing the Army hospital work environment in order to describe the work environment attributes, nurse burnout, job dissatisfaction and intent to leave the Army workforce from the perspectives of military and civilian staff nurses. The second purpose was to compare these results to published reports from civilian hospitals. As we know, recruitment and retention has been tied to positive work environments, such as those that exist in magnet hospitals. The final sample from the Army study consisted of 957 Registered Nurses who worked in inpatient settings within the Army's 23 hospitals in the United States. The sample represented 64 percent civilian and 36 percent military nurses. The study results concluded that nurses working in Army hospitals rated Army hospitals more favorably as compared to the ratings of a group of civilian hospitals in terms of work environment. Nurses who work in Army hospitals experience less burnout and less job dissatisfaction than those in civilian hospitals. Finally, when taking into consideration normal military rotations and rotations within a hospital, Army nursing personnel are less likely than civilian nurses to leave their current positions within one year. Research of this nature helps us maintain our healthy work environment as well as remain competitive with our civilian counterparts in recruitment and retention.

Our support and appreciation for the Uniformed Services University of the Health Sciences (USUHS) is also very strong. USUHS continues to provide us with professional nursing graduates who continue to excel in their programs of study and subsequent professional military careers. We are pleased that both the Clinical Nurse Specialist Program in Perioperative Nursing as well as the Doctoral Program in Nursing are successfully progressing in their inaugural year. These programs were established as a result of an identified need in the military services and the Graduate School of Nursing leadership and staff worked tremendously hard to develop and execute both of these programs. USUHS will continue to be our cornerstone educational institution and remains flexible and responsive to our Federal Nursing needs. We look forward to a continued strong partnership to maintain the necessary numbers of professional practitioners to support our complex mission.

The Army Nurse Corps experienced the loss of two tremendous Army Nurse Corps officers this past year, one whose legacy of leadership and influence will forever have an impact on the Corps and one whose young career ended much too soon. Brigadier General (Retired) Lillian Dunlap, our 14th Chief, Army Nurse Corps, passed away in April 2003. She had a long and illustrious life, both personally and professionally. BG Dunlap served in the 59th Station Hospital in the southwest Pacific area of New Guinea, Admiralty Islands and the Philippines during World War II and during her 33 year career, held almost every position available in the Army Nurse Corps from staff duty nurse to nurse counselor, chief nurse, 1st U.S. Army during Vietnam, director of nursing services, instructor and director of nursing science at our Academy of Health Sciences. Without a doubt, one of BG Dunlap's most powerful and lasting achievements was the elevation of the educational level of nurses in the Army Nurse Corps. Her support and guidance assured the success of the baccalaureate degree in Nursing as the standard for entry into practice for Army Nurses—a standard that the Army Nurse Corps once again reaffirms today as the minimum educational requirement and basic entry level for professional nursing practice. We appreciate your continued support of this endeavor and your commitment to the educational advancement of all military nurses. BG (R) Dunlap's legacy will endure and she will be known as an Army nurse who opened many doors for the future of Army nursing and "gave that handful more" to everything that she did. We salute her self-less service.

Captain Gussie Mae Jones was born in Arkansas and was one of eight children. She began her Army career by enlisting in 1988 as a personnel clerk and climbed to the rank of sergeant. In 1986, Captain Jones earned a bachelor's degree in business administration from Arkansas University Central. She was selected above her peers to attend the Army Enlisted Commissioning Program and earned her second bachelor's degree from Syracuse University in 1998. It was in nursing that she found her passion. Her career as a registered nurse and a commissioned officer began in September 1998 at Brooke Army Medical Center in San Antonio. After completing our specialty course in critical-care nursing in 2002, she was assigned to William Beaumont Army Medical Center, where she excelled in nursing in the

intensive care setting. Assigned as a Professional Officer Filler (PROFIS) to the 31st Combat Support Hospital, Captain Jones deployed with her unit to Iraq in February of this year. An emerging leader and dedicated nurse, Captain Jones was admired by her fellow soldiers. On March 7, 2004, Captain Jones died of natural causes in Baghdad, Iraq surrounded by the soldiers with whom she served. Captain Jones devoted 15 years of her life to the service of her Country and the United States Army. She was a soldier and consummate professional nurse whom we are extremely proud to have had in the Army Nurse Corps. CPT Jones represents the best in Army nursing. We will never forget her sacrifice and willingness to serve. She will be sorely missed.

Finally Senators, we are firmly determined to meeting and overcoming any challenge that we face this year and are committed to meet the uncertain challenges of the future. We will continue with a sustained focus on readiness, expert clinical practice, sound educational preparation, professionalism, leadership and the unfailing commitment to our Nation that have been distinguishing characteristics of our Army nurses and our organization for over 103 years. As I conclude my 32 years of service in the Army Nurse Corps, I am most proud of all the tremendous civilian and military nursing personnel that represent this great Army Nurse Corps. Thank you again for your support and for providing the opportunity to present the extraordinary efforts, sacrifices and contributions made by Army nurses who are all ready, caring and proud.

Senator STEVENS. Admiral Lescavage.

**STATEMENT OF REAR ADMIRAL NANCY J. LESCOVAGE, DIRECTOR,
NAVY NURSE CORPS**

Admiral LESCOVAGE. Good morning, Chairman Stevens, Senator Inouye. I am Rear Admiral Nancy Lescavage, the 20th Director of the Navy Nurse Corps and the Commander of the Naval Medical Education Training Command. It indeed is an honor and a privilege to speak before you during my third year in this position and to highlight the achievements and issues of our 5,000 Navy nurses, both Active and Reserve.

The Navy Nurse Corps' exceptional performance during the past year clearly demonstrates operational readiness as we continue to meet our primary mission. In support of Operation Iraqi Freedom, we had 500 nurses deployed and there were over 400 filled reserve mobilization requests to maintain the continuum of care in our military treatment facilities. In addition, there were over 400 active and Reserve Navy nurses involved in additional training exercises.

Through a variety of activities, ranging from direct care to the conduct of research in support of our operational forces, Navy nurse fleet support has been well received by our line community. For example, nurse practitioners assigned to the Norfolk Naval Base see fleet sailors on board ship or while underway. Through the newly established force nurse initiative with the U.S. Atlantic fleet and Pacific fleet, Navy nurses are now integral to fleet level oversight and lend guidance and assistance to aircraft carrier medical departments and our aviation squadrons.

At our naval health research centers, Navy nurse researchers are leading the way in research projects focused on things like women's health initiatives and casualty care.

Numerous training opportunities across the Federal and the civilian sectors have been essential to maintaining critical Navy nursing specialty skills that are required in the operational environment. As one example, over 50 Navy nurses have successfully rotated through the Navy trauma training program with Los Angeles (L.A.) County and the University of Southern California Med-

ical Center to enhance their combat trauma skills. Also, through established agreements between six military treatment facilities and local trauma centers, an additional 50 Navy nurses have also benefitted from this specialized training.

Across naval medicine, military and civilian nurses are leaders, clinical experts, and researchers in a variety of programs from population health to specific disease management. The Joint Population Health Office at Naval Medical Clinic Pearl Harbor has been labeled as a benchmark for population health in the Navy with their comprehensive screening and assessment program to individualize patient care.

Through the vast worldwide case management program across Navy medicine, the collaborative efforts of 93 civilian nurse case managers have resulted in an estimated cost avoidance of \$6.4 million through recaptured workload, decreased lost training days, and better managed care. In addition, innovative nurse managed clinics include a 24-hour/7-day-a-week nurse call center which supports increased accessibility, post-deployment stress briefings and disease management, to name a few.

In the area of research, we value its contribution to quality patient care and the practice of our nursing professionals anywhere from utilizing evidence-based medicine to establishing innovative health care programs. Through a comprehensive research-based practice initiative, focused on patient falls, for example, National Naval Medical Center Bethesda has become a model in promoting patient safety for civilian, as well as our military facilities.

As an outcome of one of our TriService nursing research program funded grants, we now assign more seasoned Navy nurses with specific critical care expertise to our aircraft carriers to better meet our operational mission. Many of our research grant findings are collaboratively shared across the services and presented worldwide at numerous professional conferences and in professional publications.

Your continued support of TriService nursing research is greatly appreciated.

With the Nation's focus on the overall nursing shortage, it is important to address our recruitment and retention efforts. Our goal is to shape the force with the right number of Navy nurses in the right specialties, more importantly at the right time in the right positions. That is done to meet our mission in all care environments and to become the premier employer of choice for our Navy nurses and civilian nurses.

Naval medicine has historically been able to meet military and civilian recruiting goals and specialty nursing requirements to this point. We had a slow start this year, specifically in active duty recruiting, with our most recent report of attaining only 26 percent of our goal although we are only midway through the recruiting year. We have recently been successful in increasing the accession bonus, and that occurred late January of this year. We are also in the process of seeking funding for the health professional loan repayment program.

Fortunately, the good news is we have other pipeline scholarship programs, for instance, our ROTC programs and seaman to admiral, to help meet our recruiting needs. Based on our projected gains

and losses for this year, we predict a deficit of 98 for a desired end strength of 3,176 active duty nurses.

As for our Reserve component, we are right on track with recruiting and we predict 100 percent fill of our billets. Our Reserve nurses are at 105 percent end strength.

To meet nursing specialty mission requirements and promote retention, I do have to say our graduate education scholarship programs and specialized training for those on active duty have been extremely successful in retaining our active duty nurses. Our retention numbers are very high. Our Navy nurses love education. We continue to focus on our operationally related nursing specialties, for example, operating room, critical care, anesthesia, and emergency room nurses, as well as academic programs that will propel our nurses into the forefront of health care planning and policy in obtaining Ph.D.'s and MBA's and public health graduate degrees.

In addition to civilian universities, we also send our students to the Uniformed Services University of Health Sciences. Your continued interest in the USUHS Graduate School of Nursing and their doctoral, perioperative, family nurse practitioner, and anesthesia nursing programs is greatly appreciated.

In closing, I again do appreciate your tremendous support with legislative initiatives and the opportunity to share the accomplishments and issues that face our great Navy Nurse Corps. I consistently see our nurses as dynamic leaders and innovative change agents in all settings, both in our MTF's and in combat. I remain truly proud of the corps and our civilian nurses as they stand ready to promote, protect, and restore the health of all entrusted to our care.

PREPARED STATEMENT

I look forward to continuing to work with you during my tenure as the Director of the Navy Nurse Corps. Thank you, sirs, for this great honor and privilege.

Senator STEVENS. Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF REAR ADMIRAL NANCY J. LESCAVAGE

Good morning Chairman Stevens, Senator Inouye and distinguished members of the Committee. I am Rear Admiral Nancy Lescavage, the 20th Director of the Navy Nurse Corps and Commander of the Naval Medical Education and Training Command. It is an honor and a privilege to speak before you during my third year in this position and to highlight the achievements and issues of our 5,000 Navy nurses.

Our performance during Operations Enduring Freedom and Iraqi Freedom clearly demonstrated operational readiness as we continue to meet our primary mission. I would now like to address Navy Nurse Corps impact in the areas of readiness and homeland security; nursing initiatives; education and training; jointness and research.

READINESS AND HOMELAND SECURITY

In support of Operation Iraqi Freedom, we had 500 nurses deployed from over eighteen facilities to the Hospital Ship COMFORT, Fleet Hospitals, Casualty Receiving Treatment Ships, Shock Trauma Platoons, and with the Marines. To maintain the continuum of care back at our Military Treatment Facilities, there were over 400 filled Reserve mobilization requests, the second largest recall since Desert Storm. In addition, there were over 400 Active and Reserve Navy Nurses involved in training exercises, such as Fleet Hospital Field Training, Operational Readiness

Evaluations, Hospital Ship MERCY Exercises, Cobra Gold, West African Outreach Program, Operation Arctic Circle and Combined Armed Exercises. Throughout all operations and exercises, our military and civilian nurses readily adapted; remarkably delivered outstanding care; and achieved mission accomplishment at our facilities and while deployed.

In addition to meeting the medical needs of our Navy and Marine Corps team “in theater,” readiness also includes preparing health care personnel at Navy hospitals and clinics around the world to respond to a natural disaster or terrorist attack. Nurses are at the forefront of emergency preparedness across Naval Medicine in a variety of roles. Within Naval Medicine’s Homeland Security Office at the Bureau of Medicine and Surgery, there are two Navy nurses executing a comprehensive “Disaster Preparedness, Vulnerability, Analysis, Training and Exercise Program” to identify vulnerabilities in training and to test each military treatment facility’s emergency response plan. Their effectiveness was recently put to an immediate test during the third training day at Naval Hospital Charleston, when a real disaster occurred. Forty-four participants, two local hospitals and the Charleston County Emergency Medical System provided topnotch care for the casualties involved in a bus accident. In addition, we have several Navy nurses collaborating with local community disaster planning programs, promoting well-coordinated response plans, such as at Naval Hospital Pensacola and Naval Hospital Charleston.

Training

Optimizing available training opportunities across the Federal and civilian sectors is essential in maintaining critical nursing specialty skills that are required in all operational environments. Great success is attributed to the Navy Trauma Training Program in conjunction with the Los Angeles County/University of Southern California Medical Center, one of the nation’s finest Level I Trauma Centers. Since its inception in the fall of 2002, over fifty Navy nurses have successfully rotated through this program to enhance their combat trauma skills and to further increase medical readiness with their respective platform teams. Due to intense follow-up with health care team graduates in the field, many operational lessons have been incorporated into their curriculum. The program has received positive national press coverage through television, nursing magazines and newspapers, praising the Navy faculty as experts in the most current trauma standards.

Trauma training is further enhanced through established agreements between six military treatment facilities with local trauma centers and critical care settings for over 50 nurses at San Diego, Bethesda, Jacksonville, Camp Pendleton, Bremerton, and Charleston. Other training opportunities include web-based critical care courses, such as the “American Association of Critical Care Nurses Essentials of Critical Care Orientation” and other instructor presentations, which provide continuing education credit. To support dual critical specialty skills in the operational environment, the Association of Perioperative Registered Nurses nursing curriculum for Perioperative Nurses Training has been adapted for critical care nurses. As an adjunct to traditional platform training, the nursing staff at Naval Medical Center San Diego conducted “Operational Skills Days” to enhance their clinical skills and didactic foundation. When operational needs required immediate training, Navy nurses were sent to Naval Hospital Okinawa to assist with Forward Resuscitative Surgical System training.

In short, our Senior Nurse Executives are very resourceful in seeking educational resources and skills enhancement training to meet platform and specialty requirements, particularly when located in smaller, remote facilities or overseas. These clinical training opportunities have also expanded to other required nursing specialties, such as labor and delivery, nursery and mother infant nursing for our Naval Hospitals at Guam and Keflavik through clinical programs in facilities stateside and overseas. In addition, we continue to place strong emphasis in developing a solid clinical foundation for our graduate nurses through Nurse Intern Programs at several of our facilities, providing a good mix of clinical rotations tailored to varied patient acuity and specialties resulting in better prepared nurses.

Related to operational training while supporting community needs, I would like to highlight three unique military training exercises. The Civil-Military Innovative Readiness Training Program with our reserve nurses helps to rebuild America in underserved areas through Operation Arctic Care in Alaska. Partnership efforts include regional, state and local communities with Guard and Reserve units in providing exceptional medical care. Through our nurses’ sound leadership and detailed coordination in the deployment and movement of these units, operational and combat readiness skills of the military units are enhanced. While on the exercise, the health care team on the Hospital Ship MERCY provided medical care to eighty-three Seattle veteran-eligible patients last summer, lauded by the Seattle Post for

their community support. While in the Pacific Northwest, our health care professionals met with Canadian health care counterparts to discuss response plans for a major earthquake scenario. In addition, during the recent Southern California fire, our hospital ship provided housing and hot meals for over 100 military families.

At the Deckplate

The expanding direct Fleet support by our Navy nurses has been well received by the Navy and Marine Corps communities. Our two nurse practitioners assigned to the Norfolk Naval Base see 300 Fleet sailors a month onboard ship or while underway for wellness and readiness efforts alone. They also function as trainers and consultants and have developed a CD-ROM for Fleet implementation of the Preventive Health Assessment Program. Women's Health Nurse Practitioners have provided clinical exams for females onboard the U.S.S. Kennedy and also serve as instructors for the gynecological portion of the Independent Duty Hospital Corpsman curriculum. Through the newly-established Force Nurse Initiative with Commander, Naval Air Force U.S. Atlantic Fleet and Commander, Naval Air Force U.S. Pacific Fleet, two Navy nurses are now integral to Fleet level oversight, guidance and assistance to aircraft carrier medical departments and aviation squadrons. Professional nursing and technical recommendations are also provided on Force Health Protection, Shipboard Medical Training, Medical Department Quality Assurance, Infection Control, the acquisition of new medical equipment and other programs.

Preventive Health Assessment Nurse-Run Clinics, such as in our Naval Hospitals at Pensacola and Corpus Christi, have been praised by the Navy Line Community for promoting healthy, physically fit Naval Forces as program compliance dramatically increased. With the addition of a mental health clinical nurse specialist, the Outreach Program at Corpus Christi has further expanded suicide awareness briefs and other services.

Within the operational nursing division at our Naval Health Research Centers, our nurse researchers are leading funded research projects focused on women's health issues and casualty care. In addition, they collaboratively developed research-based methods for providing surgical support during special operations at sea and in caring for the Medical and Security forces at Camp Delta in Guantanamo Bay, Cuba. These are just a few examples of how Navy nurses at the deckplate are involved in diverse activities ranging from direct care to the conduct of research in support of our operational forces.

NURSING INITIATIVES

Across Naval Medicine, Navy nurses are involved in the planning and implementation of a variety of programs as leaders, clinical experts and researchers from population health to specific disease management. Military and civilian nurses are valued catalysts across our facilities directing patient safety initiatives and leading collaborative teams to evaluate patient outcomes that reduce error, variability, and cost. Several nursing initiatives include implementation of the JCAHO National Patient Safety goals, skin care studies, staffing effectiveness project, the management of diabetic patients, inpatient bed utilization, and medication/non-medication related near misses and actual events.

Navy nurses at our three Healthcare Support Offices have been primary movers in linking the clinical aspects of Naval Medicine with strategic and annual business planning efforts to create more efficient practices and improve outcomes. Their most significant impact is in relating the clinical processes to business rules and interpreting the data relative to true clinical practices. In addition, nurse leaders and researchers are very involved with Navy Advisory Boards, Joint Readiness Clinical Advisory Boards and nationwide studies to collaborate on clinical advances and identify specific metrics to demonstrate efficient business practices.

Joint Population Health Programs

Through the Joint Population Health Program across three California-based Naval Hospitals at San Diego, Camp Pendleton, and Twenty-Nine Palms, masters and doctorally-prepared nurses demonstrate savvy in program implementation, policy, practice and research to shape the health status of Naval forces and all eligible beneficiaries, while focusing on quality, cost and access. The Joint Population Health Office at Naval Medical Clinic Pearl Harbor, Hawaii has been labeled as a benchmark for population health in the Navy. Based on a comprehensive screening and assessment process, the program addresses Preventive Health Assessments (Active Duty); adult and children immunization and health maintenance status; and health education literature and classes based on individual needs. Statistically proven results support the benefits of both of these programs.

Case Management

In today's rapidly changing health care environment, nurse case managers play a crucial role in helping patients and providers select the most appropriate level of care in the most cost-effective setting. Optimal outcome is best exemplified through the Case Management Program across Navy Medicine based on the collaborative efforts of 93 civilian nurse case managers. Their focus on Active Duty, Exceptional Family Member Program families, patients with multi-system medical problems, targeted disease management entities and frequent emergency room users resulted in recaptured workload, decreased lost training days, enhanced patient/provider satisfaction and better managed care. The Active Duty Trauma Nursing Case Management Program at Naval Medical Center, San Diego coordinated the health care needs of 87 Operation Iraqi Freedom wounded and 233 non-operational trauma patients. Among other programs, such as at Naval Hospital Guam, nurse case managers have been responsible for reducing emergency room visits and inpatient admissions for chronically ill patients by responding to hundreds of consults and processing catastrophic, complex, high risk, high-cost health care requests.

Nurse-managed Clinics

The rise in nurse-managed or nurse-run clinics has demonstrated the art and science of nursing in facilitating wellness, prevention and health maintenance towards self-management for patients. The nature of registered nurse practice in collaboration with physician champions meets the standards of the American Academy of Ambulatory Nurses through the use of research-based clinical practice guidelines, spanning across the spectrum from neonates to geriatric patients.

Using the latest technological advances in wound care, nurses at Naval Hospitals Pensacola and Portsmouth enhance the care of complex battlefield injuries. Within Family-Centered Care, nurses plan, coordinate, and provide direct care and case management through a variety of programs, such as Postpartum Care Clinics. Home Action Plans for Pediatric Pulmonary patients at three of our facilities reduced admission rates by 50 percent. Other innovative nursing initiatives include: a nurse call center supporting 24/7 accessibility; post-deployment stress briefings; and disease management (diabetes, hyperlipidemia, and hypertension), to name a few.

Successful open access initiatives as a result of the innovative leadership of nurses at Naval Hospitals Pensacola and San Diego have increased patient satisfaction; decreased emergency room visits and unscheduled walk-in appointments; and improved patient/provider matching. With the assistance of the Institute for Healthcare Improvement at Naval Hospital Great Lakes, demand and patient flow processes were reviewed; inefficiencies were identified; new business plans were developed; and appointments were adjusted to maximize access. Success has migrated these processes to other clinics and clinical support areas as well.

RESEARCH

We value research as an essential component to quality nursing care, from utilizing evidence-based practice to conducting research. For example, at Naval Medical Center Portsmouth, adult patients with bladder problems are now scanned for urinary retention resulting in an 87 percent reduction in catheterizations. Upper respiratory infection, urinary tract infection, diabetes and asthma clinical practice guidelines have improved clinical parameters and therefore decreased the number of appointments. In support of patient safety, an evidenced-based practice initiative for a more comprehensive risk assessment and protocol for "falls" was implemented at National Naval Medical Center Bethesda and has become a model for civilian and military facilities. The Sports Medicine and Reconditioning Team at Naval Medical Center San Diego includes a nurse researcher to evaluate "return to duty" time and re-injury rates of our Sailors and Marines to identify areas for improvement. Through a multidisciplinary research study, MedTeams strive to eliminate errors in the obstetrical area, increase patient satisfaction, and enhance collegiality and collaboration among health care professionals.

We continue to focus on advancing the practice of military specific nursing and its response to requirements of military readiness and deployment. The TriService Nursing Research Program has conducted Grant Management Workshops, which provided invaluable mentorship and training, resulting in an increased number of higher quality grant submissions. Research results are collaboratively shared across the services and are further disseminated to other facilities. Many of our research grant findings have been presented worldwide in numerous nursing conferences and in at least ten professional publications.

JOINT INITIATIVES

There are several examples of joint programs across our Federal agencies, which combine the talent of our health care teams to provide quality care. Nurses at Naval Hospital Great Lakes are involved in coordinating a partnership program for active duty treatment and inpatient care with the North Chicago Veterans Affairs Medical Center. Nurses at Naval Hospital Corpus Christi are involved in the business planning and management of specialty care with their local Department of Veterans Affairs Hospital.

Combined training initiatives and the mutual sharing of clinical expertise are beneficial, particularly for our overseas duty stations. Noteworthy coordinated efforts include a mental health nursing program with Walter Reed Army Medical Center in Washington, DC; an Obstetrics Course at Langley Air Force Hospital; Labor and Delivery training at Landstuhl Army Medical Center; assisting Madigan Army Medical Center with their medic (Licensed Practice Nurse) clinical training; and providing Advanced Cardiac Life Support and Pediatric Advanced Life Support classes for the Air Force at our Naval Medical Clinic in London.

PROFESSIONAL NURSING IN NAVAL MEDICINE

Our goals are to shape the force with the right number of people in the right specialties, to meet the mission in all care environments, and to become the premiere employer of choice. Accomplishing this requires close attention to the national nursing issues; the pursuit of available recruitment and retention initiatives; and the alignment of our military and civilian nurses to meet Naval Medicine needs.

The Department of Health and Human Services and other independent studies project that the current national nursing shortage of several hundred thousand registered nurses may add up to 750,000 by 2020. Despite recent increases in the number of nursing school entrants, the nation could have a long way to go in making a dent in the overall shortfall. We carefully monitor civilian compensation packages to maintain the strength of our military and civilian nursing work force by offering a variety of incentives.

Recruitment and Retention

Through our diversified accession sources, pipeline scholarship programs, pay incentives, graduate education programs, specialized training opportunities and varied retention initiatives, Naval Medicine has historically been able to meet military and civilian recruiting goals and specialty nursing requirements to this point. We presently have 96.4 percent of our authorized active duty billets filled and 100 percent fill for our Reserve component. We continue to focus on our operationally-related nursing specialties, such as medical-surgical, critical care, perioperative and anesthesia, as well as women's health nurse practitioner and certified midwives. Although we had a slow start in recruiting this year when compared to the past 10 years, we expect to meet our active and reserve recruiting goals this fiscal year.

Our civil service workforce challenges have been identified in remote locations stateside and overseas, as well in certain specialties, such as labor and delivery. Recruiting and retention incentives are utilized and career ladders initiated where possible.

Graduate Education

Graduate education program and specialized training have been extremely successful in meeting our nursing specialty mission requirements and promoting retention. This year, we are sending two nurses to the recently established Doctoral Program at the Uniformed Services University of Health Sciences (USUHS). In addition, we continue to send several of our students to the USUHS anesthesia, family nurse practitioner and perioperative nursing programs.

Nurse Leadership

Navy nurses continue to function in pivotal executive roles to impact legislation, health care policy and medical delivery systems. Executive nurse leaders in the Active and Reserve component are in key command positions as Commanding Officers and Executive Officers; at the Bureau of Medicine and Surgery Headquarters as Deputy Surgeon General and Deputy Directors; and other staff positions at Tricare Management Activity, Health Affairs.

As leaders, we value mentorship, which is accomplished via many innovative formal programs and informal forums with our enlisted personnel, Naval Reserve Officer Training Corps students, Medical Enlisted Commissioning Program students, junior nurses, and novice researchers.

Recognition

Our nurses are recognized for their exceptional talent, outstanding leadership and professional nursing community involvement and have received clinical practice awards through the American Association of Critical Care Nurses, the Sigma Theta Tau Nursing Honor Society; the Association of Women's Health, Obstetric and Neonatal Nurses; and the American Academy of Ambulatory Care Nurses. Our integral presence has also been documented through an extensive list of journal publications. For example, the June 2003 Critical Care Nursing Clinics of North America was specifically dedicated to military and disaster nursing. In addition, our professional achievements have been highlighted in many forums at the Academy of Medical-Surgical Nurses Conference, the Association of Perioperative Nurses Workshop, the California Nurse Leader Workshop, and at the Institute for Health Care Improvement Conference.

CONCLUSION

In closing, I appreciate the opportunity to share the accomplishments and issues that face the Navy Nurse Corps. I see our nurses as dynamic leaders and innovative change agents in all settings.

I remain truly proud of our Navy military and civilian nurses as they stand ready to promote, protect, and restore the health of all entrusted to our care anytime and anywhere.

I look forward to continuing to work with you during my tenure as the Director of the Navy Nurse Corps. Thank you for this honor and privilege.

Senator STEVENS. General Brannon, my daughter is taking Chinese and she has learned to read from right to left. I have not, so although you do have the star, I start from the left. Please proceed.

STATEMENT OF MAJOR GENERAL BARBARA C. BRANNON, ASSISTANT AIR FORCE SURGEON GENERAL, NURSING SERVICES

General BRANNON. Thank you, Chairman Stevens, Senator Inouye. It is a great honor and pleasure to again represent your Air Force nursing team. What a dynamic time in the history of our Nation. Our soldiers, sailors, airmen, and marines continue to valiantly support the global war on terrorism in dangerous and unpredictable environments. They can count on the support of Air Force nursing, active duty, Guard, and Reserve, officer and enlisted. We are one team ready anytime to go anywhere at our Nation's call to provide robust medical support to combat units, to victims of natural disasters, and to those in need of humanitarian or civic assistance.

IRAQ

To support Operations Enduring Freedom and Iraqi Freedom, 2,328 nurses and medical technicians deployed as members of 24 EMEDS units, treating more than 200,000 patients, combat casualties and those suffering non-combat injury and disease. Six nurses provided outstanding leadership as EMEDS commanders in diverse locations around the globe.

AEROMEDICAL EVACUATION

Aeromedical evacuation is a vital link in combat casualty care and a key Air Force capability. Since last spring, we have flown over 3,200 missions and supported more than 40,000 patient transports. Our ability to provide critical care in the air, using specialized transport teams, has bridged the gap between point of trauma and definitive medical treatment.

RECRUITING

Air Force independent duty medical technicians provide vital care in remote and deployed locations. They are jacks of all trades, from providing medical and dental services, to protecting troops from bioenvironmental hazards.

On the home front, we continue to aggressively organize, train, and equip the nursing forces we need. A robust recruiting program is essential to keep our nurse corps strong. Fiscal year 2003 was our most successful recruiting year since 1998, yet we were still 100 nurses below our requirement. Thanks to your tremendous support, this year we are offering an increased accession bonus or loan repayment to new accessions. We are optimistic that this will result in a more successful recruiting year.

RETENTION

Retention is the other dimension of force sustainment. Air Force retention remains strong at 93 percent. So despite missing our requirement for 5 years, we were only 118 nurses below our authorized end strength last year.

Education and training and research ensure we deliver top quality nursing care. Air Force nurse researchers stay on the cutting edge of military nursing science, and I am proud to report that 21 are actively engaged in Tri-Service nursing research program studies with a very strong emphasis on operational research.

EDUCATION AND TRAINING

The Uniformed Services University Graduate School of Nursing is aggressively developing programs to meet the needs of Federal nurses. Their new perioperative clinical nurse specialist program is the only one in the Nation and includes preparation for practice in deployed environments. Three Air Force nurses are in the inaugural class.

RESEARCH

Their new Ph.D. program will promote nursing research relevant to Federal health care and to military operations. Although the program is in its first year, the response has been overwhelming with 12 nurses currently enrolled.

We continue to look for opportunities to capitalize on the strength of our enlisted force and to provide avenues for progression to a bachelor's degree in nursing. There is great interest in the programs and growing our own nurses will provide a strong nurse corps and ease our recruiting requirements.

This has truly been an extraordinary year for our nurse corps and we have reached two major milestones. Colonel Melissa Rank's nomination to Brigadier General marks the first nurse corps selection at an all-corps promotion board, and as you mentioned, I was also promoted to Major General in August and I am truly honored by the trust that has been placed in me.

PREPARED STATEMENT

Mr. Chairman, Senator Inouye, I am very proud to lead the 19,000 men and women of Air Force nursing, active duty, Guard,

and Reserve. Thank you for your tremendous support and for again allowing me to share Air Force nursing accomplishments and just a few of our plans for the future.

[The statement follows:]

PREPARED STATEMENT OF MAJOR GENERAL BARBARA C. BRANNON

Mister Chairman and distinguished members of the committee, it is an honor and great pleasure to again represent your Air Force Nursing team. What a dynamic time in the history of our nation! Last year, at this time, our allied forces had toppled the regime of Saddam Hussein and focus had shifted to peacekeeping and humanitarian relief for the Iraqi people. Today, the fighting continues and our soldiers, sailors, marines and airmen continue to make the ultimate sacrifice for their nation. Terrorist organizations continue their campaign of carnage throughout the world, and horror is commonplace on front-page news. This war is far from over.

Our nation has expressed pride and grateful appreciation for the selfless sacrifice of our soldiers, sailors, airmen and marines. The American Soldier is Time magazine's Person of the Year. And the American public holds the nursing profession in very high esteem. In a recent Gallup poll, Nursing was rated the most honest and ethical profession.

As our military men and women fight far from home, they count on great medical support in theater and for their loved ones at home. Nursing plays a pivotal role in Air Force healthcare in both arenas. Lieutenant General Taylor has highlighted the importance of Preventive Health Assessments, Individual Medical Readiness, and post-deployment health assessments. All these programs, in which nursing personnel have key administrative roles, have been integral to the success of deployment health. The disease non-battle injury rate of 4 percent for this conflict is the lowest ever achieved. That translates to more healthy people ready to execute the mission.

Active duty, guard and reserve Nurse Corps officers and aerospace medical service technicians also serve around the world to provide robust medical support to our combat units, victims of natural disasters, and those who need humanitarian or civic assistance. It is my honor to share some of our activities in support of deployment and training and some of the stories of our everyday heroes.

Our first priority, and our greatest success, is our ability to maintain constant mission readiness for any contingency. We deploy anytime, anywhere at our nation's call. To support Operations ENDURING FREEDOM and IRAQI FREEDOM, 725 nurses and 1,603 medical technicians deployed as members of 24 Expeditionary Medical Support units, or EMEDS. Five of these deployed units have been equipped with chemical and biological protection to counter potential threats. Our EMEDS teams have treated more than 171,000 casualties, those injured in combat and those with non-combat injuries and disease. I am very proud to report that six nurses were deployed as EMEDS commanders during the past year. These nurse leaders, in charge of deployed wing medical facilities, were absolutely outstanding in meeting healthcare needs of combined and coalition forces in such diverse locations as Saudi Arabia, Romania, the United Arab Emirates, Bahrain, and Diego Garcia.

Aeromedical Evacuation has had a starring role in Operation IRAQI FREEDOM and continues to be a critical core competency for the Air Force. It is battle tested and it works, providing state-of-the-art in-flight medical care for transport of U.S. and coalition forces. The system has exceeded all expectations in providing life-saving care during transport of the sick and injured from battlefields to their home units. Since last spring, we have flown over 3,200 missions and supported more than 40,000 patient transports without a single in-flight combat-related death. We have transformed the aeromedical evacuation system from one relying on specific aircraft and dedicated missions, to an integrated multiplatform capability, which uses available aircraft and prepositioned aeromedical evacuation crews. Through the vision and ingenuity of our leadership, we have overcome numerous challenges and have continued to move forward, demonstrating flexible, timely support to combat operations.

Our Flight Nurses and Aeromedical Evacuation Technicians are seamlessly integrated with Medical Service Corps Officers, front-end aircrews, maintenance crews, and ground medical units in areas of operations. Combining the capability of the Critical Care Air Transport Teams (CCATT) with Aeromedical Evacuation crews has brought definitive care closer to the point of injury, faster than ever before. The additional capabilities of the CCATT makes it possible to safely transport stabilized patients by air, reduces the requirement for in-theater beds, and gets injured troops to definitive care in hours rather than days.

Major Dan Berg was a member of the Critical Care Air Transport Team that cared for a 19-year old soldier whose convoy had been hit by rocket-propelled grenades. Major Berg provided care to the critically injured patient throughout the 10½ hour flight. Only able to communicate by writing on a notepad, the young soldier wrote that he never expected such care so far from home. Major Berg showed the young man his flight suit patch, which bore the promise, "Committed to the Wounded Warrior."

Nurses play a vital role in tailoring the aeromedical evacuation system to meet needs of our forces. The Andrews AFB team converted the base gymnasium into a 100-bed contingency aeromedical staging facility (CASF). Eighty-five medical professionals activated from the 459th Aeromedical Staging Squadron staffed the facility, working with a smaller active duty team from the 89th Medical Group. During peak operations, personnel at the CASF managed up to 6 inbound overseas missions per week with 50–70 patients per mission. Many of the patients were transported directly from the flight line to Walter Reed Army Medical Center and the National Naval Medical Center, but up to 92 patients remained overnight in the CASF for further air transport. Within the past 12 months, the CASF team supported over 850 aeromedical evacuation flights and coordinated over 15,700 patient movements. Great teamwork between our Air Force components and sister services made this mission a resounding success.

Seamless integration with the medical teams of our sister services has been critical in many locations during Operation ENDURING FREEDOM and IRAQI FREEDOM. Major Kathryn Weiss, a nurse anesthetist from Hurlbert Field, deployed with the Army's 10th Special Forces Group to Northern Iraq to provide frontline emergency medical capabilities in an imminent danger area within the range of enemy artillery. The team treated casualties suffering from bullet and shrapnel wounds as well as those injured in motor vehicle crashes. The team was recognized by the award of the Bronze Star for their meritorious achievements.

Major Weiss is just one example of the tremendous capability of our Certified Registered Nurse Anesthetists. They are frequently part of our Mobile Field Surgical Teams, substituting for anesthesiologists. Seventeen of the twenty-seven certified registered nurse anesthetists who deployed in 2003 were filling anesthesiologist tasks and provided top-notch surgical support.

Our Air Force Independent Duty Medical Technicians are linchpins in health care delivery in remote and deployed locations. They are "jacks of all trades" and masters of health care modalities from routine and emergency medical and dental care, to biomedical environmental management. IDMTs are invaluable in the full spectrum of military missions to include Special Operations, EMEDS, Forward Air Controllers, Combat Communications and coalition team activities.

Recently one of our IDMTs, MSgt James Koss from Tyndall Air Force Base, accompanied a coalition force in Iraq and provided support in medical intelligence, personnel and field sanitation, force protection, medical pre-screening and coordination of medical care. His preventive health initiatives were key to a low rate of heat related injuries and disease outbreaks.

In Iraq, Nurse Corps Colonel David Adams, Director of Force Health Operations for the Office of the Assistant Secretary of Defense for Health Affairs, served as Chief of Strategic Planning for the Coalition Provisional Authority in Baghdad. Colonel Adams assisted the Minister of Health in identifying healthcare system needs and then coordinating support from other nations. Colonel Linda McHale, an Air Force Reserve Individual Mobilization Augmentee is mobilized to work with the Iraqi Minister of Health in establishing training programs for nurses and medical technicians.

In French Village, Iraq, a three-member team from the 122nd Indiana Air National Guard Fighter Wing set up a medical clinic to restore health care for the villagers after their civilian clinic had been looted and destroyed by insurgents earlier in the year. Captain (Dr.) Jeff Skinner, Senior Master Sergeant Tommie Tracey and Senior Airman Matt Read collected donations of essential items for the clinic, including children's vitamins and a play set for the waiting room. When all was ready, they assisted with the grand opening of the new facility.

In addition to providing service in Operation ENDURING FREEDOM and IRAQI FREEDOM, Air Force Nursing actively supports Homeland Security and humanitarian relief. Air Force Lieutenant Colonel Linda Cashion, Chief of Air Force Homeland Security Medical Operations, was the first nurse to complete a fellowship with the National Disaster Medical System, part of the Federal Emergency Management Agency. She provided valuable assistance in planning and implementing the Disaster Relief Program and expertly developed the nursing role for Disaster Medical Assistance Teams. Colonel Cashion was also instrumental in coordinating care for 26 critically burned victims in the Rhode Island nightclub fire.

Air Force nursing support of humanitarian missions reaches around the globe. Chief Master Sergeant Virginia Thompson, an Air Force aeromedical technician at Randolph Air Force Base, participated in a two-week mission to El Salvador last year where the team of eleven medical personnel treated 3,000 patients. This humanitarian mission not only advanced host-nation health, but also afforded our military medical personnel valuable experience applicable to future humanitarian missions.

During another humanitarian effort, First Lieutenant Lynn Zuckerman, Master Sergeant Baron Stewart and Staff Sergeant Patricia Fernandez from the 375th Medical Group, Scott Air Force Base were part of an eight person team that participated in a U.S. Southern Command sponsored mission to Guatemala. The team provided medical care to the under-served Guatemalan population in the isolated villages of San Sebastian, San Jose Caben, Rincon and Chim. During this mission, 5,600 patients received treatment for a wide range of conditions including gastrointestinal illnesses from parasitic infection and chronic debilitating disease from arthritis and heart disease.

Air Force nursing vigorously supports international partnerships. Personnel from the 435th Medical Group, Ramstein Air Base, participated in EUCOM-directed multinational mass casualty exercise. Nurses and medical technicians trained over 100 medical students in Georgia, the independent state of the former USSR, on a variety of skills to include moulage, self-aid buddy care, and advanced trauma management. The team also improved medical support in the community by training 30 local civil defense authorities in mass casualty and disaster management. The U.S. Ambassador to Georgia praised the team's tremendous support in providing much-needed training.

SKILLS SUSTAINMENT

Air Force medics could not succeed in our expeditionary deployments without targeted training to ensure clinical currency. The Readiness Skills Verification Program (RSVP) continues to ensure that our personnel are trained in the wartime skills they need and that they stay current in those skills. The training is accomplished at home station and at multiple off site locations. As I mentioned last year, at our Centers for Sustainment of Trauma and Readiness Skills (C-STARS) programs, we partner with civilian academic centers to immerse our nurses, medical technicians, and physicians in all phases of trauma management to sharpen combat casualty care skills.

We now offer this terrific program at three locations: The Shock Trauma Center in Baltimore, The University of Cincinnati Medical Center, and Saint Louis University Hospital. By expanding the program, we have been able to train more medics each year. Over the last 2½ years, 334 nurses and medical technicians have completed the training; almost half of these were trained in 2003.

First Lieutenant John Cleckner, a critical care nurse preparing to deploy on an EMEDS validated the program's importance by saying, "This experience allowed me to significantly update and hone my trauma skills. Now I'm confident that I am ready."

As part of the C-STARS program, nurses complete an Advanced Trauma Life Support Course, and medical technicians complete the Pre-Hospital Trauma Life Support course. Both courses teach aggressive trauma care techniques and how to adjust standard treatment when projectiles and velocity impact the victim. These competencies are essential to care of wartime casualties.

RECRUITING AND RETENTION

We have a robust recruiting program, which is essential to keeping the Nurse Corps healthy and ready to meet the complex challenges in healthcare and national security. Numerous incentive programs have been instituted to prevent a nursing shortage in the Air Force, but shortfalls continue to be an enormous challenge both nationally and internationally. Last year, the Bureau of Labor Statistics reported that registered nurses are at the top of ten occupations with the largest projected job growth through the year 2012. One positive sign is that the number of enrollments in entry-level baccalaureate programs increased by 16.6 percent last year, although there were an additional 11,000 qualified students turned away due to limitations in faculty, clinical sites, and classrooms. Employer competition for nurses will continue to be fierce and nurses have many options to consider.

Quality of life and career opportunities, coupled with other incentives, are critical recruiting tools for Air Force Nursing. Fiscal year 2003 was our most successful recruiting year since 1998. Although we have recruited approximately 70 percent of our goal each year since fiscal year 1999, we have seen an increase in the number

of new accessions each year. Last year, we recruited 16 percent more nurses than in fiscal year 2002, and I attribute the increase largely to our educational loan repayment program. In order to compensate for our current shortfall and projected separations, our fiscal year 2004 recruiting goal is 394 nurses. Funding is available to offer new accessions either a \$10,000 accession bonus or up to \$28,000 for educational loan repayment. We have \$5.2 million available to fund these initiatives in fiscal year 2004 and are hopeful that our accession numbers will exceed last year. As of March 31, 2004, we have brought 108 new nurses onto Active Duty—on par with last year and about 27 percent of goal. We attract some of the best nurses in the job market today, although most are very junior with respect to experience level.

This year we continue to recruit nurses up to the age of 47 to boost our ranks. We commissioned 25 nurses over age 40 last year, and although they are not retirement eligible, they provide tremendous support during their time on active duty. They have the critical skills and clinical leadership we need to meet our peacetime and wartime readiness mission, as well as years of clinical experience to share with our novice nurses.

Our slogan, “we are all recruiters,” continues to rally support as we tackle the challenge of recruiting. I have fostered more effective partnering with recruiting teams to maximize recruiting strategies and success. Among other activities, we have increased nursing Air Force ROTC quotas from 29 in fiscal year 2003 to 35 in fiscal year 2004, and 100 percent of our quotas have been filled.

I take advantage of every occasion to highlight the tremendous personal and professional opportunities in Air Force Nursing. I encourage nurses to visit their alma mater and nursing schools near their base to market quality of life and professional opportunities as an Air Force Nurse. This has proven to be a powerful recruiting tool.

We have also expanded media exposure of the outstanding accomplishments of our people and their support of troops in Operation IRAQI FREEDOM. This past fall, Secretary of Defense Rumsfeld’s visit with our aeromedical evacuation teams in Baghdad was highlighted in print media, and Major Keith Fletcher, an Air National Guard Nurse from the 379th AES Mobile Aeromedical Staging Facility, was featured in a photo with the Secretary. Air Force Reserve nurse Major Tami Rougeau was selected as one of the “Heroes Among Us” by the National Military Family Association, and she rode in the Rose Bowl Parade with other honorees. Another Air Force Nurse Corps star, Captain Cynthia Jones Weidman of Scott Air Force Base, Illinois, was awarded the American Red Cross Florence Nightingale Medal, one of the highest honors in the nursing profession. She was the first Air Force Nurse to receive the medal, and the first military nurse since 1955. Air Force nurses present very positive images in the news.

Retention is the other key dimension of force sustainment. Our retention remains strong at 93 percent and, despite not meeting our recruiting goal for five successive years, we were only 143 nurses under our authorized end strength of 3,862 at the end of fiscal year 2003.

Lieutenant Colonel John Murray, one of our doctorally-prepared Nurse Corps officers, developed a standardized, web-based officer assessment tool to identify what influences officers to remain on active duty or separate from the Air Force. The pilot study began in January 2004 with a sample of Nurse Corps officers. The assessment tool will help identify targets of opportunity to enhance quality of life and professional practice. We continue to recommend Reserve, National Guard, and Public Health Service transfers for those who desire more stability in their home base but wish to continue military service and can meet deployment requirements.

RESEARCH

Air Force nurse researchers stay on the cutting-edge of advancing the science and practice of nursing. I am proud to say that twenty-one Air Force nurses are actively engaged in TriService Nursing Research Program (TSNRP) funded initiatives.

Air Force researchers are leaders in the Department of Defense and the Nation in operational nursing research. In fiscal year 2003, nursing research at Wilford Hall Medical Center continued to focus on care of the war fighter in military unique and austere environments. A study on the thermal stresses onboard military aircraft led to evaluation of products designed to maintain body temperature in critically injured patients during aeromedical evacuation. This will identify devices that are effective in maintaining temperature control to improve support and survivability of casualties.

The TSNRP-funded Air Force Combat Casualty Aeromedical Nursing research study describe the experiences of AE crewmembers in providing combat casualty care to gather information that can be used to improve AE nursing practice. The

study also aims to pilot a research instrument to measure characteristics of casualties in different locations and the nursing care required. This study will influence AE combat casualty care and future training.

Another study, "Recruitment Decision Making for Military Nursing Careers" is being conducted collaboratively by military nurse researchers at Keesler AFB and nursing researchers at the University of South Alabama. The goal of this study is to describe factors that influence nursing students in considering military nursing careers. This study will help identify the characteristics of individuals interested in military service and guide recruiting services in deploying recruiting initiatives.

EDUCATION

The Graduate School of Nursing at the Uniformed Services University has demonstrated tremendous flexibility and capability in meeting the needs of uniformed nurses. They began a clinical nurse specialist master's program at the request of the Federal Nursing Chiefs and also inaugurated a Ph.D. nursing program. The Perioperative Clinical Nurse Specialist program is the only one in the nation and includes special preparation for operating in a field environment so graduates are ready for deployment challenges. Three Air Force nurses are in the inaugural class.

The Ph.D. program was established to meet the evolving need for nursing research relevant to federal health care and military operations. It affords federal nurses the opportunity to study in a unique environment and gain exceptional qualifications to lead in research, education, and clinical practice. Although the program is in its first year, the response has been overwhelming, and twelve nurses are enrolled either full or part time.

NURSING FORCE DEVELOPMENT

Nursing has vigorously embraced the Force Development initiative launched last summer by Air Force Secretary James G. Roche and our Chief of Staff, General John P. Jumper. General Jumper describes the construct as making sure "we place the right technical and leadership skills in the right places with the right people who are educated and trained for success".

Each officer career field has a dedicated Development Team (DT) to guide the assignments and educational opportunities for each officer. Our Nurse Corps DT has already played a substantial role in selecting chief nurses for our facilities, best assignments for our Colonels on the move and educational programs and candidates we will sponsor.

We continue to work on opportunities to capitalize on the knowledge and experience of our enlisted force, and provide them more avenues to acquire advanced training and credentials. Eight medical technicians will graduate from the Army's Licensed Practical Nurse training course in April 2004 and we are looking at ways to increase LPN numbers. The Air Force Reserve is piloting an initiative to send new enlisted nursing personnel to a civilian LPN program. We have reviewed Navy enlisted baccalaureate scholarship programs and are reviewing similar opportunities for our enlisted personnel to earn a bachelor's degree and a commission in the Nurse Corps. This has great potential to reduce our recruiting deficit by "growing our own" nurse corps officers from our enlisted ranks.

The global war on terrorism and a resource constrained environment has driven us to look even harder at efficiencies in nursing force utilization. Recent research has shown that a more educated nurse force, implementation of higher nurse-to-patient ratios, and better nursing work environments contribute to improved patient safety and lower patient morbidity and mortality. The Air Force Medical Service chartered Product Line Analysis and Transformation Teams to study civilian healthcare industry staffing models and best practice benchmarks. The new models they identified for nursing are being used to adjust staffing requirements.

The Nurse Corps Top Down Grade Review mentioned in my testimony last year is progressing, and we have identified the need to rebalance Nurse Corps grade authorizations to better meet readiness and in-garrison healthcare requirements, and provide healthy career progression and promotion opportunities more in keeping with those of line officers and other medical service corps. Another aspect of our grade review was to determine the number of active duty nurses required for deployment and other military unique requirements. With this process, we have identified opportunities to civilianize many nurse positions. The methodology employed in the Nurse Corps study is being applied to all other career fields in the Air Force Medical Service to determine force structures and appropriate civilian/military mix.

This has been an extraordinary year by all measures, and our Nurse Corps also reached two big milestones in our history. The nomination of Colonel Melissa Rank to Brigadier General marks the first selection of a nurse corps officer by an "all

corps" promotion board. It is a testament not only to her outstanding performance but also reflects the magnitude of leadership and talent we have in our Air Force Nurse Corps. I was also promoted on the first of August to Major General, another Air Force first. It is a great honor and very humbling. I am grateful to have the opportunity to continue to serve. For the first time in history, we will have two active duty nurses concurrently serving the Air Force as general officers.

Mister Chairman and distinguished members of the Committee, it has been a joy and great honor to lead the 19,000 men and women of our active, guard and reserve total Air Force Nursing team. Thank you for your tremendous advocacy and stalwart support to our great profession of nursing and for inviting me to share the accomplishments of Air Force Nursing once again.

Senator STEVENS. Thank you all very much.

I am going to yield to the patron saint of military nurses, my co-chairman.

Senator INOUE. I thank you very much.

RECRUITING AND RETENTION

Nurses are all angels to me. They are very important.

As all of you have indicated, our major concern is recruiting and retaining. I just want to make certain that these programs continue.

For example, the Tri-Service nursing research program is not funded. I was told it is number nine on the USUHS priority list. Do you believe this committee should override that and fund it?

General BRANNON. Well, sir, if I may speak, I think the Tri-Service nursing research program initiatives have tremendous impact on the progress in military science for operationally nursing. I think it is a unique funding stream and allows us to do many great studies. I would hate to lose that avenue.

Senator INOUE. If it is not funded, would it have any impact or implication on patient care?

General BRANNON. Yes, potentially. At aeromedical evacuation, we have a Tri-Service nursing research funded program that is looking at the environment of the various aircrafts and how we can mitigate some of the heat and cold concerns to provide a more stable transport environment for patients. That very clearly would adversely impact patients if we cannot complete that research. That is just one of many examples.

Admiral LESCAVAGE. Sir, I echo what General Brannon just said. I believe research is key to our future. As you queried the previous panel of our Surgeons General, you did also mention the subject of research. Research is quite competitive. There are never enough dollars for any type of research, as you well know.

Should the funding go away, I see our nursing projects certainly as very important, but I know all of the good work, some 75 ongoing projects right now—some of them would not get the attention they need, and we would suffer from not being able to do it all. But I am certain we also would keep the highly relevant ones going, for instance, in the combat arena.

We very much appreciate the funding that we get every year and frankly do not want to live without it.

Senator INOUE. We have a graduate school of nursing, Colonel, and also a doctoral program. Should they be continued?

Colonel GUSTKE. Yes, sir, most definitely. We have had the opportunity from the Army's perspective for the last 3 or 4 years to use the Uniformed Services University (USU) program strictly for

education of our family nurse practitioners, and without that program, we would not have the necessary funding to do that.

Additionally, this past year we had our first inaugural year of the perioperative nursing program which, of course, is an extremely, go-to-war skill. This year we have educated four to six perioperative nurses from the Army and we will continue to do so every year. We have been extremely fortunate in educating additional certified registered nurse anesthetists (CRNAs), which again is another go-to-war mission that is important for us. Without this program, it would have a severe impact upon our ability to do so.

Senator INOUE. Do these programs have any impact on recruiting and retention?

Colonel GUSTKE. Well, sir, I would say the ability for our nurses to attend long-term health education is a very big retention carrot. Many of our nurses say that once they hit that 6th, 7th, 8th year—it is between the 4th and 6th years when we lose a number of our nurses. So we probably have our biggest retention problems, if we have any, at any particular given year. And many of our nurses say the ability to go back to graduate school and for the military to pay that bill for them to get their advanced education is extremely important to them. It is one of the reasons they come in. It certainly is not pay. It certainly is not incentive pay of any kind, but it is the ability to advance their education. I think to lose that capability would have a severe impact upon our retention.

LOAN REPAYMENT PROGRAMS AND BONUSES

Senator INOUE. We have been impressed upon, that in about 10 or 15 years, we will have a nursing shortage of about 400,000 nurses in this country. Obviously, that will have an impact upon the military nurse corps. Do these loan repayment programs and bonuses make a difference?

Colonel GUSTKE. Yes, sir. I will tell you from our perspective, this is our inaugural year in using the health loan repayment plan. We have got three programs in effect currently for recruitment. First, if individuals used health professions loan repayment program (HPLRP), they come in for 3 years. Second tier, they can use HPLRP with an accession bonus of \$5,000 and come in for 6 years, and the third tier is for them to just accept a \$10,000 bonus and come in for 4 years. Under those plans, this past year we have seen anywhere from 12 to 15 applicants come in the Army Nurse Corps each month. With these continued programs, we firmly believe that we will be able to meet our mission this year for the first time in 3 years, our USAREC recruitment mission. So having spoken to the folks out in the field and the recruiters, they want to keep these initiatives going, and we would also certainly like to see an increase in our accession bonus as the years progress to see where we are competitively with the civilian market. But it has been extremely good to us this past year.

Senator INOUE. I suppose you all agree.

General BRANNON. Yes. Of the almost 100 nurses that have been recruited so far this year, 60 percent have taken a loan repayment and 40 percent the increased accession bonus. I just came from a recruiting conference yesterday and they applauded the efforts,

that they are making a tremendous difference because we are more competitive with the civilian facilities. So thank you.

Admiral LESCAVAGE. It is my belief nurses anywhere want three things: to be appreciated, which we do very well I believe in the military; to be compensated, our pay is very good; and to be educated. The pipeline programs I mentioned in my testimony, the ROTC programs, really help us out with bringing nurses into the Navy and then the issue is to retain them. We offer about 80 scholarships a year. As I visit our facilities, I always ask the question, who has been to duty under instruction. A fair amount of hands will go up. And who wants to duty under instruction, the scholarships we give while on active duty. Many, many hands go up. It is sort of a fever that has been created, and it is our best retention tool. I myself have had two scholarships from the Navy. It is highly valued.

Senator INOUE. Well, I am certain I speak for the committee, and I speak for all of my colleagues in thanking all of you for your service to this Nation.

On a personal note, I spent just about 20 months in military hospitals, and if it were not for nurses, I do not suppose I would be sitting here. So to you, thank you very much.

Senator STEVENS. Well, I did not spend that long, but I spent my time in military hospitals too. I think that the Senator is right. You have the calling of the angels.

SURGE CAPABILITY FROM GUARD AND RESERVE

My only question would be, is there enough emphasis on a surge capability in time of war, as I have talked to my previous panel, for doctors and surgeons in particular? Do we have a surge capability from the Guard, Reserve? You mentioned total force. You mentioned it somewhat too, Colonel. But I don't want to be offensive, but I do not sense the commitment to the ongoing capability of former members of the service to have plans to bring them back in if needed. Can you comment? Do we have sufficient plans really to call up additional people from Guard and Reserve if they are needed?

Colonel GUSTKE. Well, sir, I will tell you from the Army's perspective, we have three things in place currently. We have not skipped a beat in providing patient care to date, no matter what facility you will go to. We have the GWOT dollars to supplement with our contract civilian nurses, which has been very successful. We have integrated Reserve units as back-fills in our medical treatment facilities, both in CONUS and overseas, and then we have also used our 91 percent fill rate for our civilians which has been very successful, the direct hire authority.

We also have had a number of military nurses call up and want to come back on active duty. So there is a program in place at our branch right now to look at that plan, should we ever need that to come to fruition. But for right now, sir, I think what we have in place is working very well, and should the need arise, we will look at that and get back in more detail on it, sir.

Senator STEVENS. Admiral.

Admiral LESCAVAGE. Sir, I feel fully confident that we are ready. During my tenure, what we have done, actually before we ever

went into Iraq, was to look at our critical specialties, make sure not only do we have the numbers, but that we have provided the training that they need. And that is in areas of nurse anesthesia, operating room, emergency room, and critical care. What happened, once we did go into Iraq, I, as Colonel Gustke just described, received many calls from previous active duty to come back, our reservists. We are manned at 105 percent. The key to the Reserves is to get more in the middle grades. We have many in the senior grades. So we are now tweaking that to try to recruit more middle grade officers into the Reserves. But, sir, I feel we are ready.

Senator STEVENS. General.

General BRANNON. Well, we are a total nursing team, and we have relied heavily on our Reserve and Guard brethren to support the nursing missions, particularly aeromedical evacuation. I will say some has been mobilization. Most of the positions are really being filled with willing volunteers at this point. So I remain always impressed and astonished at the commitment from our Reserves and our Guard.

Senator STEVENS. Thank you very much.

My mind goes back to the time that I introduced an amendment to change the draft laws to draft women. It was defeated, as we expected, but we also then defeated the draft. We have relied on volunteer entrants to all of our services, and retention of some of those people who retire or leave before retirement for the purpose of surge capability in the cases of war and emergencies. So I think we sometimes forget the numbers that we were part of, 6 million and 7 million men. All-out war requires an enormous capability.

I am not sure we have that capability today under the volunteer service, but I think we have to find some way, as I mentioned to the doctors, to try and see if we can provide the incentive for some people to be trained and just be literally reserved for crisis or all-out war, not for just the temporary surges in numbers. We are still in a fairly small war in comparison to the time when the two of us were in the service. God forbid we will ever have to do it. But I am not sure we have plans to do it. That is what bothers me. I would like to talk to you about it sometime in the future.

ADDITIONAL COMMITTEE QUESTIONS

But meanwhile, I do appreciate what you have done, and I echo what my friend says about the admiration we have for all of the people that are in your service. They are not all women, as a matter of fact. You are all women, but I have met many male nurses in the service, and I commend them and we commend all of you. Thank you for your service.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO LIEUTENANT GENERAL JAMES B. PEAKE

QUESTIONS SUBMITTED BY SENATOR PATRICK J. LEAHY

Question. General Peake, I am pleased to hear of the progress that the Army is making in its efforts to develop modern alternatives to the deployable medical field systems, or "DEPMEDs," that we've had in service for so many years. Is it true that

the Army would like to begin fielding an alternative to DEPMEDs as early as calendar year 2005 once a final design is decided?

Answer. The Army's Transformation Objective requires a Force that is strategically responsive and dominant at every point on the spectrum of operations. Heavy forces must be more strategically deployable and more agile with a smaller logistical footprint, and light forces must be lethal, survivable, and tactical.

For more than 20 years the Department of Defense has employed Deployable Medical System (DEPMEDS) hospitals for any significant deployment of combat forces. Whether configured as the Navy's Fleet Hospital, the Air Force's Air Transportable Hospital, or the Army's Combat Support Hospital, each service uses essentially the same concept of moving special purpose medical shelters, both tents and ISO shelters, with a very low level of pre-integrated equipment, which required a significant number of transport containers. As a result of transformation throughout DOD, the need to rapidly deploy a range of scaleable, modular medical capabilities, which have the flexibility to be tailored and packaged to support a full range of combat operations, has become paramount. Accordingly, the concept for the Future Medical Shelter System (FMSS) shall respond to the joint requirements of the U.S. Army and the U.S. Navy.

The FMSS shelter concept integrates the majority of medical supplies and equipment directly into the ISO containers thus eliminating separate packaging for these items and reducing the need for additional transport shelters and reducing weight and cube of the DEPMEDS hospital by approximately 30 percent. Consequently, the strategic deployability (air, ship, and truck transport volume) requirements are correspondingly reduced. Additional benefits of integration are enhanced tactical mobility as a result of the decreased time required to set up and prepare a DEPMEDS hospital for operation, conservation of the fighting strength by providing CONUS standards of medical care for soldiers deployed in world wide operations, and the ability to operate in all climates due to the environmentally controlled and chemical-biological overpressure protected environment. The fully modular system with integrated plug-and-play capability will have the required flexibility to be tailored and packaged to support the full range of combat operations.

The Army is currently managing three separate Congressionally funded FMSS initiatives, Oak Ridge National Laboratories (ORNL), Mobile Medical International Corporation (MMIC), and EADS-Dornier. Each is developing a design for an Operating Room ISO container. ORNL and MMIC will deliver prototypes to the Army in May 2004 and July 2004 respectively. EADS-Dornier is funded to provide engineering drawings of the OR ISO by December 2004.

The FMSS program is in the Concept & Technical Development/Systems Development & Demonstration phases of development. Much work remains to ensure that these units are suitable for military use. It is unlikely that this could be accomplished by 2005 due to the fact that there is no funding available for further development or testing. There was no fiscal year 2004 Congressional Appropriation for the FMSS and the Army has no funding to support development or procurement of these initiatives, however, it is desired to begin replacing our aging DEPMEDs containers with these new enhanced capabilities as soon as possible. With your assistance and additional RDT&E funds, we should be able to achieve a procurement decision by the end of fiscal year 2006. As a reminder, the original DEPMEDs procurement was funded through direct Congressional Appropriation. Due to the projected cost of replacing DEPMEDS and current DOD funding priorities, this approach is the most likely scenario for a successful procurement of a DEPMEDs replacement.

Question. General Peake, in that the hard-shell mobile hospital alternatives you are developing deploy very quickly and feature nuclear-biological-chemical protective capability, do you see these units having a possible role in disaster or terrorist incident response either at overseas U.S. bases or in this country?

Answer. I believe the hard-shell mobile hospital alternative you refer to is the Chemical Biological Protective Shelter (CBPS). The CBPS is not exactly a mobile hospital alternative, however, it provides a highly mobile, self-contained, contamination free, environmentally controlled medical treatment area for forward deployed medical treatment units. (Battalion Aid Stations, Division & Corps Med Companies and Forward Surgical Teams). The CBPSs are complexed to provide these capabilities.

The CBPS is a 300 square foot, air beam, soft wall shelter rolled up and transported on the rear of a Highly Mobile Multipurpose Wheeled Vehicle with Light weight Multipurpose Shelter and a trailer mounted Tactical Quiet Generator. The system can process 10 Litter/ambulatory patients per hour. It is Type Classified Standard with full materiel release and is currently in procurement through the Joint NBC Defense Program.

The CBPS could have a role in disaster or terrorist incident response as it provides a contamination free environmentally controlled environment for treatment and surgery. Its capacity, however, is limited.

Question. Do you and Dr. Winkenwerder anticipate use of this type of mobile diagnosis/treatment center in medical diplomacy missions where the Pentagon is trying to win the "hearts and minds" of ambivalent local populations in places like the Philippines, Middle East, and the Western Horn of Africa?

Answer. The Chemical Biological Protective Shelter (CBPS) provides a contamination free environmentally controlled environment for the provision of sick call, advanced trauma life support and surgery on the contaminated battlefield. The CBPS currently is in the initial stages of procurement and is in short supply.

I believe the CBPS can provide a small mobile medical treatment facility (clinic like capability) for diagnosis/treatment in medical diplomacy missions. This use must be coordinated between the Department of Defense and Department of State.

QUESTIONS SUBMITTED BY SENATOR RICHARD J. DURBIN

BLOOD SUBSTITUTES

Question. I have heard of advances the Army and the Navy are making in developing blood substitutes for treating combat wounded. I know the Army has successfully completed Phases I and II with Northfield Laboratories in Illinois and are working with the FDA for approval, as well as the lab, to complete Phase III which would provide for clinical trials. I believe it is critical that we continue to support these efforts as they have significant battlefield applications, as well as first responders in a natural disaster or terrorist attack.

Would you explain what these blood substitutes are, and why they are important to the future of combat casualty care and your assessment of their prospects for success for all services?

Answer.

What are blood substitutes

The most common approach that has been taken to develop blood substitutes is to harvest hemoglobin, the natural molecule that carries oxygen to vital tissues, from either human or bovine (cattle) sources. The hemoglobin is then subjected to proprietary processes to remove unwanted materials and to remove or inactivate potential infectious agents. Other proprietary processes are used to build the individual hemoglobin molecules into chains of hemoglobin. This process is believed to reduce or eliminate toxic effects caused by individual molecules of hemoglobin. Once processing is completed the hemoglobin is ready for use as a means to provide oxygen-carrying capability to subjects who have lost significant amounts of blood. These preparations are referred to as hemoglobin-based oxygen carriers (HBOC). Other approaches are being pursued but they are much earlier in their development and will not be ready, if ever, for many years.

Potential utility for the military services

Combat injury on the battlefield typically occurs in the absence of ready availability of packed red blood cells (PRBC), the derivative of whole blood that is normally required to manage patients who have severe bleeding. Most deaths that result from severe bleeding on the battlefield occur within the first hour of injury. It has been difficult to solve this problem because medics on the battlefield cannot carry PRBC. PRBC must essentially remain refrigerated until used. HBOC have the advantage that they are much more stable when removed from refrigeration and can therefore be carried on the battlefield for at least limited periods (days to weeks) and remain safe for human use. Thus, more ready availability of HBOC on the battlefield may provide a bridge for the casualty with life-threatening hemorrhage that will permit survival until evacuation from the battlefield can be accomplished.

Prospects for success of HBOC

An early HBOC developed by the Baxter Corporation was developed and tested in the 90's and subsequently abandoned during advanced clinical testing when an excessive (unexpected) number of deaths occurred among patients treated with the product in their Phase 3 study.

Currently, two smaller companies, Northfield Laboratories, Inc., Evanston, IL and Biopure Corporation, Cambridge, MA have developed new products incorporating new processes that it is hoped will mitigate the toxicity problems seen with the Baxter product. Both Northfield and Biopure have conducted animal and human studies

of their products that have both so far shown promise. However, large, phase 3 clinical studies that demonstrate both safety and effectiveness remain to be completed. Northfield Laboratories began a Phase 3 study in trauma patients outside of the hospital in December 2003 and plans to complete this study in 2005. If this study is successful (shows both safety and effectiveness), the company anticipates licensure sometime in 2006. Biopure Corporation, in collaboration with the Naval Medical Research Center, plans to begin a Phase 3 study of their HBOC in trauma patients outside the hospital later in 2004. If successful, licensure might be anticipated in 2006 or 2007.

The Army and the Navy have continued to collaborate and remain connected with both companies to help shape and ensure that their products will have maximal relevance for military as well as civilian application. In that regard, the Navy has recently assumed sponsorship of the Phase 3 study that will be conducted with the Biopure Corporation HBOC. The Army is collaborating with Northfield Laboratories to make their HBOC available to Special Operations Forces casualties on the battlefield in a controlled, pre-licensure treatment protocol.

DENTAL RESEARCH

Question. As I am sure you are all aware, a DOD review panel in 2000 confirmed the need for the military dental research but found that it is hampered by discontinuous funding streams. Last year, the Committee included language in its report that “directed” the Department to sufficiently fund the military dental research program at the Great Lakes naval base. Last year Congress added \$2 million for dental research, which was actually only about half of what was requested.

Could you tell this Committee how much the Army and Navy are each putting into this program for fiscal year 2005?

Answer. The U.S. Army, through U.S. Army Medical Research and Materiel Command, Combat Casualty Care and Walter Reed Army Institute of Research fund the U.S. Army Dental and Trauma Research Detachment at \$1.687 million of which some support is provided for infrastructure and \$1.08 million is available for U.S. Army Dental Research.

Question. It is my understanding that one of the biggest problems for deployed Soldiers is avoiding gum disease—like trench mouth. What are the Army dental researchers at Great Lakes doing to address this problem to prevent dental emergencies for deployed Soldiers?

Answer. The U.S. Army Dental Trauma and Research Detachment (USADTRD) is approaching reduction of the historically constant 15.6 percent emergency rate in deployed Soldiers from several different avenues. Firstly, (USADTRD) is developing a rapid PCR that will, if successful, identify those Soldiers who are most susceptible to accelerated deterioration of oral health during deployments. Once identified, special measures, including diet and special oral hygiene aides, can be prescribed specifically for that Soldier to prevent becoming an emergency/evacuation. The single largest focus of USADTRD’s science program is the development of a safe, efficacious anti-microbial peptide that can be added to military rations and control dental plaque caused disease. It is anticipated this peptide will be delivered via chewing gum, and will be effective in reducing/preventing oral diseases even in the face of heightened stress levels and decreased oral hygiene due to the optempo experienced during deployments. Currently of the 15.6 percent emergency rate, 75 percent of those emergencies are related to dental plaque. USADTRD is projecting at least a 50 percent decrease in plaque related emergencies. This will be a significant force multiplier for the warfighter.

Question. The Navy dental researchers at Great Lakes have developed several new products and pieces of equipment that allow corpsmen to treat warfighters in the field saving time and money. Can you tell us about some of that equipment?

Answer. In keeping in line with current U.S. Army doctrine, the U.S. Army Dental and Trauma Research Detachment (USADTRD) has developed and fielded a miniaturized dental field unit and operating system (DeFTOS). This dental field unit significantly reduces the weight and cube of dental equipment used in deployed environments. This reduction allows dental equipment to be closer to the warfighter, permitting much more rapid return to duty following evacuation for dental emergencies as well as saving very valuable transportation assets for other requirements. Currently USADTRD is also working to greatly reduce the weight, size and electrical requirements for field sterilizers. By accomplishing this, the U.S. Army will not only benefit with a smaller, lighter sterilizer, but due to a lessened electrical requirement, a great deal more weight and cubes will be saved by a far smaller electric generator.

QUESTIONS SUBMITTED BY SENATOR DIANNE FEINSTEIN

Question. The antimalarial drug mefloquine has been identified as causing severe side effects such as psychosis, aggression, paranoia, depression and thoughts of suicide, even after use of the drug has stopped. Could you please tell me why another quinolone, ciprofloxacin, is being given to soldiers to self administer when consuming suspicious foods in Iraq when the side effects from one quinolone have the potential to be compounded by the second?

Answer. Mefloquine is a 4-quinolinemethanol derivative. Ciprofloxacin is a fluoroquinolone that is an antimicrobial agent, used to kill bacteria. The two drugs are not related. There are no known drug interactions between mefloquine and ciprofloxacin. Furthermore, it is not Army policy to give ciprofloxacin for self-administration when consuming suspicious foods. In fact, Soldiers are cautioned against consuming foods on the local economy. Soldiers have a variety of foods provided for them, including Meals-Ready-To-Eat, T-rations, which consist of containers of pre-packaged foods and fresh rations, which are thoroughly inspected for quality.

Question. DOD has begun an investigation into psychiatric adverse events in soldiers and plans a study of mefloquine. DOD has stated that it has not included in its assessments several incidents in soldiers who have taken mefloquine or soldiers who do not demonstrate blood levels of the drug. FDA's News Release of July 9, 2003 states that "Sometimes these psychiatric adverse events may persist even after stopping the medication." What is being done by DOD to investigate the incidents of suicides in soldiers while on or returning from deployment? Any investigations should include soldiers who consumed mefloquine and committed suicide or committed other acts of violence whether there were residues identified in their blood or not. What is DOD's timeframe for conducting a review of these cases and conducting other studies of the effects of mefloquine?

Answer. The DOD uses all of the currently recommended antimalarial medications, basing their choice on medical and operational considerations for each mission. All of these medications have potential side effects, and, the risks and benefits of each are considered by our operational surgeons, when recommending a medication for malaria prophylaxis. Recently, the antimalarial drug mefloquine has been highlighted in news reports, alleging severe adverse side effects potentially related to this medication. DOD is committed to finding answers to the questions raised by these reports.

Dr. Winkenwerder, Assistant Secretary of Defense for Health Affairs, has asked an expert panel of independent physicians, scientists, epidemiologists, and ethicists from highly respected civilian institutions and academia to recommend study designs that are best suited to answering questions surrounding antimalarial medications. Based on these recommendations, Health Affairs has commissioned two studies. The first, to be led by the Deployment Health Research Center at the Naval Health Research Center (NHRC) in San Diego, will look at the (comparative rates of adverse events (including neuropsychiatric) associated with antimalarial use. A preliminary descriptive study is underway and preliminary results should be completed within one to two months. Based on the recommendations of the expert panel, the NHRC will then partner with a civilian academic institution to perform a retrospective cohort analysis of the data to determine the comparative rates of adverse outcomes associated with each of the antimalarial medicines. The details of this thorough analysis are being developed now. We anticipate that this study will take 12-18 months to complete.

A second study will address the questions raised about suicides in our deployed and recently deployed service members. The Armed Forces Institute of Pathology is leading this study. The first step will be a comprehensive review to characterize all suicides in DOD. They will then partner with a civilian academic institution to perform a case control analysis in order to better understand the myriad of potential attributable risk factors with these deaths. Use of the antimalarial medication mefloquine will be one factor assessed in this study. Planning for this study is underway, and we anticipate this extremely thorough analysis to take 18 to 24 months to complete.

The creditability of this work will hinge on the fact that it will be comprehensive and validated by the medical community. A non-federal oversight board will oversee both of these study efforts—DOD will be working with the American Institute of Biological Sciences.

Question. What are you doing to specifically recognize and report adverse events that are potentially associated with mefloquine consumption in deployment situations? What kind of reporting systems are available to deployed physicians, medics and or soldiers for reporting adverse events?

Answer. Once a health care provider has determined that an adverse event is likely due to mefloquine or any drug, they first document it in the patient's health record. Then, they would ensure that the information is reported. If they were in a deployed medical treatment facility that has Internet connectivity, they would access the web site for the Joint Medical Workstation (JMeWS) system, and code the patient encounter as an adverse drug event. In more remote combat areas, mobile Army medical personnel use laptops to input patient encounter information through Composite Health Care System II—Theater (CHCS—II—T).

Question. What support is provided for soldiers reporting adverse events who are taking mefloquine? What is the Standard Operating Procedure for a managing a soldier with side effects from mefloquine consumption, knowing that stopping the drug is insufficient as the effects can persist after stopping the product, while on deployment or here in the United States?

Answer. If a Soldier experiences severe side effects with mefloquine, then the medication will be stopped and the medical needs of the Soldier will be taken care of. It is important to understand that treatment is individualized according to the type of reaction and what treatment is indicated for that particular adverse event. When Soldiers have any health concerns that may be related to deployment, no matter which deployment nor how long ago the deployment occurred, we use an evidenced-based clinical practice guideline called the post-deployment evaluation and management guideline. Service subject matter experts from the Department of Defense and Veterans Health Affairs developed this guideline. It is used in the primary care setting in screening, evaluating and managing the post-deployment health concerns of service members. It provides an algorithm to systematically and comprehensively address health concerns by reinforcing a partnership with the Soldier patient. A detailed medical history is taken; followed by a medical exam, appropriate laboratory tests and consultative services, if indicated. It also serves to enhance the continuity of care and foster the establishment of therapeutic relationships.

QUESTIONS SUBMITTED TO VICE ADMIRAL MICHAEL L. COWAN

QUESTIONS SUBMITTED BY SENATOR RICHARD J. DURBIN

DENTAL RESEARCH

Question. As I am sure you are all aware, a DOD review panel in 2000 confirmed the need for the military dental research but found that it is hampered by discontinuous funding streams. Last year, the Committee included language in its report that "directed" the Department to sufficiently fund the military dental research program at the Great Lakes naval base. Last year Congress added \$2 million for dental research, which was actually only about half of what was requested. Could you tell this Committee how much the Army and Navy are each putting into this program for fiscal year 2005?

Answer. The Navy's Military Dental Research Program is primarily conducted by the Naval Institute for Dental and Biomedical Research (NIDBR) located at the Great Lakes Naval Station. NIDBR's total funding for fiscal year 2004 and the requested budget for fiscal year 2005 is summarized in the following table.

NIDBR

[Dollars in thousands]

Funding Source	Research Area	Fiscal Year 2004
DHP, Navy	Mercury Abatement	\$910
RDT&E, Navy	Science and Technology Projects	\$1,130
RDT&E, Navy	Transition/Advanced Development	\$761
RDT&E, Navy	Congressional Add	\$1,154
RDT&E, Navy	General Purpose Test Equipment and Maintenance.	\$236
DHP, Navy	Longitudinal Risk Assessment	\$162
US-EPA	Mercury Hygiene Training	\$30
Commercial Research and Development Agreement	Creighton University	\$85
Total Program	\$4,468
Various	NIDBR Fiscal Year 2005 Request	\$4,863

The NIDBR request in fiscal year 2005 assumes that research funding is available in fiscal year 2005 in the same amounts as in fiscal year 2004. In fiscal year 2005 NIDBR has additional requirements for supplies and equipment and maintenance. Science and Technology projects have not been awarded for fiscal year 2005.

Question. It is my understanding that one of the biggest problems for deployed Soldiers is avoiding gum disease—like trench mouth. What are the Army dental researchers at Great Lakes doing to address this problem to prevent dental emergencies for deployed Soldiers?

Answer. We would respectfully defer comment on Army dental research to the Army Surgeon General.

Question. The Navy dental researchers at Great Lakes have developed several new products and pieces of equipment that allow corpsmen to treat warfighters in the field saving time and money. Can you tell us about some of that equipment?

Answer. Recent achievements/products/equipment developed by the Naval Institute for Dental and Biomedical Research (NIDBR) in support of the Warfighter in all deployed venues include:

Treatment of Dental Emergencies CD-ROM.—NIDBR has developed and deployed a dental treatment CD-ROM that aids Independent Duty Corpsmen in the diagnosis and treatment of common dental emergencies. This tool assists corpsmen in providing necessary emergency treatment to deployed personnel in venues where there is no immediate access to dental officer.

Rapid Salivary Diagnostics.—NIDBR continues the development of rapid, simple, non-invasive salivary diagnostic tests to assess militarily relevant diseases such as tuberculosis and Dengue Fever, and anthrax immunization status of military personnel at risk or preparing for deployment. Currently, assays for clinic and battlefield-use using two methods: lateral flow and fluorescence polarization are being developed to provide corpsman and non-medical personnel a means for early diagnosis of personnel in the field who have contracted these diseases. This rapid diagnostic capability will allow for appropriate treatment and quicker return to duty or necessary evacuation to a higher echelon of medical care.

Far-forward Interim Dental Restorative Material/Dressing.—NIDBR continues to develop and test a new novel dental material and delivery system that can be used to treat dental emergencies in the deployed environment, thereby reducing MEDEVACs and keeping Warfighters on station. The far-forward dental dressing has been designed for use by first responders as a method to treat a wide variety of urgent dental problems encountered by the deployed Warfighter.

Authorized Dental Allowance List (ADAL) Field Dental Operatory Test and Evaluation.—NIDBR continues to test, evaluate, and validate new and existing components of the Marine Corps ADAL to ensure the deployed dental delivery systems will withstand the rigors of field use during an operational deployment.

QUESTIONS SUBMITTED BY SENATOR DIANNE FEINSTEIN

Question. The antimalarial drug mefloquine has been identified as causing severe side effects such as psychosis, aggression, paranoia, depression and thoughts of suicide, even after use of the drug has stopped. Could you please tell me why another quinolone, ciprofloxacin, is being given to soldiers to self administer when consuming suspicious foods in Iraq when the side effects from one quinolone have the potential to be compounded by the second?

Answer. A three-day supply of ciprofloxacin is commonly supplied to travelers (both civilian and military) for the emergency treatment of diarrhea, in the event that they are incapacitated and not able to receive immediate medical attention. Ciprofloxacin is usually prescribed for this type of treatment because it should either significantly improve or cure about 70 percent of bacterial gastroenteritis episodes. While it is theoretically possible for one quinolone to potentiate the side effects of another, this has not been shown to be a problem with mefloquine and ciprofloxacin. The possible association between mefloquine and ciprofloxacin with adverse events has been speculated upon, however, there have been no well-documented cases of problems due to this drug combination. Whenever mefloquine and ciprofloxacin are prescribed together, the theoretical risk of interaction must be weighed against their proven life saving benefits.

Question. DOD has begun an investigation into psychiatric adverse events in soldiers and plans a study of mefloquine. DOD has stated that it has not included in its assessments several incidents in soldiers who have taken mefloquine or soldiers who do not demonstrate blood levels of the drug. FDA's News Release of July 9, 2003 states that "Sometimes these psychiatric adverse events may persist even after stopping the medication." What is being done by DOD to investigate the incidents

of suicides in soldiers while on or returning from deployment? Any investigations should include soldiers who consumed mefloquine and committed suicide or committed other acts of violence whether there were residues identified in their blood or not. What is DOD's timeframe for conducting a review of these cases and conducting other studies of the effects of mefloquine?

Answer. The Office of the Assistant Secretary of Defense for Health Affairs (ASD (HA)) is coordinating a DOD study of adverse events associated with mefloquine, including any possible connection with suicide. Recommendations for the proposed study have been developed by a select sub-committee of the Armed Forces Epidemiological Board (AFEB) and will be presented to ASD (HA) and the AFEB. Questions regarding whether the anticipated study will include soldiers involved in specific incidents or how blood levels of mefloquine will be approached should be referred to ASD (HA).

Question. What are you doing to specifically recognize and report adverse events that are potentially associated with mefloquine consumption in deployment situations? What kind of reporting systems are available to deployed physicians, medics and/or soldiers for reporting adverse events?

Answer. Reporting of adverse events associated with mefloquine, or any other medication, is addressed by Naval Medicine's Risk Management, Patient Safety and Operational Health Care Quality Assurance programs. Operational units are required by the Chief of Naval Operations to track adverse drug reactions as a part of the Operational Health Care Quality Assurance program. These units use U.S. Food and Drug Administration guidelines for the reporting of adverse drug reactions.

Any provider, civilian or military, may submit adverse drug reactions to the U.S. Food and Drug Administration (FDA). The FDA accepts adverse drug reaction reports via website, telephone or mail. In addition, these drug reactions must be monitored at the local level through the Operational Health Care Quality Assurance Program.

Question. What support is provided for soldiers reporting adverse events who are taking mefloquine? What is the Standard Operating Procedure for a managing a soldier with side effects from mefloquine consumption, knowing that stopping the drug is insufficient as the effects can persist after stopping the product, while on deployment or here in the United States?

Answer. Individuals experiencing possible side effects from mefloquine are provided support through their local primary care provider. Management of adverse side effects from medication involves prevention through proper screening, choice of medication, appropriate monitoring, and above all, stopping the suspected medication. U.S. Food and Drug Administration guidelines advise discontinuing mefloquine if side effects occur. Due to the long half-life of mefloquine, adverse reactions to mefloquine may occur or persist up to several weeks after the last dose.

Standard of care for managing a patient with an adverse reaction to Mefloquine is to change the patient's medication, monitor the patient for resolution of side effects and refer the patient to appropriate clinical specialists for persistence of any psychiatric or neurological side effects.

QUESTIONS SUBMITTED TO LIEUTENANT GENERAL GEORGE PEACH TAYLOR, JR.

QUESTIONS SUBMITTED BY SENATOR DIANNE FEINSTEIN

MEFLOQUINE

Question. The antimalarial drug mefloquine has been identified as causing severe side effects such as psychosis, aggression, paranoia, depression and thoughts of suicide, even after use of the drug has stopped. Could you please tell me why another quinolone, ciprofloxacin, is being given to soldiers to self administer when consuming suspicious foods in Iraq when the side effects from one quinolone have the potential to be compounded by the second?

Answer. Ciprofloxacin (an antibiotic) is used for the prevention or treatment of certain type of traveler's diarrhea, often caused by consuming poorly prepared or inappropriately stored food. During deployments, our public health officials work very hard to ensure that the food that our airmen consume is safe.

Our healthcare providers prescribe prophylactic medications in accordance with the Centers for Disease Control and Prevention (CDC) recommendations, Food and Drug Administration license, and the manufacturers' prescribing information. While the concomitant administration of mefloquine and quinine or chloroquine (another antimalarial) may produce electrocardiographic (heart conduction) abnormalities,

there is no scientific evidence to suggest that the use of ciprofloxacin would compound the adverse reactions that may be associated with mefloquine use. It is within the standard of care to prescribe both mefloquine and ciprofloxacin. Both are excellent pharmaceutical agents for force health protection.

Question. DOD has begun an investigation into psychiatric adverse events in soldiers and plans a study of mefloquine. DOD has stated that it has not included in its assessments several incidents in soldiers who have taken mefloquine or soldiers who do not demonstrate blood levels of the drug. FDA's News Release of July 9, 2003 states that "Sometimes these psychiatric adverse events may persist even after stopping the medication." What is being done by DOD to investigate the incidents of suicides in soldiers while on or returning from deployment? Any investigations should include soldiers who consumed mefloquine and committed suicide or committed other acts of violence whether there were residues identified in their blood or not. What is DOD's timeframe for conducting a review of these cases and conducting other studies of the effects of mefloquine?

Answer. A loss of any airmen to suicide is tragic. For many years, Air Force leaders have been very committed to preventing suicides. Our nationally recognized suicide prevention program educates leaders as well as individual airmen on how to identify at-risk individuals and intervene when necessary to prevent suicides. Since the program's inception, our suicide rates have continued to decline.

We, along with our Sister Services and the Assistant Secretary of Defense for Health Affairs, are very concerned about the number of suicides among deployed troops and potential adverse outcomes of mefloquine. At the May 12, 2004 meeting of the Armed Forces Epidemiological Board (AFEB), the ASD/HA accepted the Board's recommendations to formally study the factors associated with suicide and to study outcomes potentially related to mefloquine. His staff is currently determining the exact details, such as time frame.

Question. What are you doing to specifically recognize and report adverse events that are potentially associated with mefloquine consumption in deployment situations? What kind of reporting systems are available to deployed physicians, medics and/or soldiers for reporting adverse events?

Answer. All our deployed military treatment facilities have capabilities to report reportable medical events. Reportable medical events include adverse events associated with vaccinations and certain medical conditions. If an airman sees a healthcare provider for an adverse event associated with medication use, it is documented in the airman's medical record and the DD Form 2766 (Adult Prevention and Chronic Care Flowsheet). The DD Form 2766 accompanies deployed personnel to the field and is returned to the individual's medical record upon re-deployment. While providers are not required to report adverse events that are not out of the ordinary (i.e., adverse events that have been reported in the package inserts for the individual pharmaceutical agent), they are required to report unusual adverse events associated with a medication directly to the Food and Drug Administration. In the 10 years that the Air Force has used mefloquine, it has not had a significant reportable event associated with mefloquine administration.

Question. What support is provided for soldiers reporting adverse events who are taking mefloquine? What is the Standard Operating Procedure for a managing a soldier with side effects from mefloquine consumption, knowing that stopping the drug is insufficient as the effects can persist after stopping the product, while on deployment or here in the United States?

Answer. If an Airman experiences symptoms while on mefloquine, a healthcare provider evaluates him or her. If necessary, the medication is discontinued and an alternative medication is substituted. Airmen are instructed to seek care for any medical concerns, including those associated with any medication use. All Airmen receive a post-deployment briefing and a face-to-face medical visit with a healthcare provider prior to returning home. Airmen are also provided with information on how to seek medical care, either through our medical treatment facilities or the VA system.

SUBCOMMITTEE RECESS

Senator STEVENS. We are going to conclude the testimony here today. We will reconvene on May 5 at 9:30 a.m., when we hear from nondepartmental witnesses on the total budget for defense. Thank you very much.

[Whereupon, at 11:50 a.m., Wednesday, April 28, the subcommittee was recessed, to reconvene at 9:30 a.m., Wednesday, May 5.]